

**INDEX
TO
HORTICULTURAL ABSTRACTS**

Volumes I - X. 1931 - 1940



**IMPERIAL BUREAU OF HORTICULTURE AND
PLANTATION CROPS
EAST MALLING, KENT, ENGLAND**

September, 1941

Price 25/-

HORTICULTURAL ABSTRACTS

Errata Volumes I-X, 1931-1940

N.B.—These do not include errors in the individual yearly indexes, which are now superseded by the 10-year index.

Volume I

- Abstract
35 Heading line 5 for 2 read 20.
49 Line 1 of title for The read Some.
68 Author for Brunsetter, B. C. read Brunstetter, B. C.
90 Author for Prillwitz, P. W. H. H. read Prillwitz, P. M. H. H.
119 Author for Hutchins, A. S. read Hutchins, A. E.
138 Author for Riabov, J. H. read Riabov, I. N.
192 Author for de la Bathe, H. P. read de la Bâthie, H. P.
225 Author for Dickson, J. H. read Dickson, G. H.
282 Author for Gadd, G. H. read Gadd, C. H.
287 Author for Bobiloff read Bobiloff, —.
388 Line 2 for Angiobada read Agobiada.

Volume II

- 102 and 103 Insert Brussels number 581.084.2:519
136 Brussels number for 643.11 read 634.11.
162 and 165 Author for Oppenheim, J. E. read Oppenheim, J. D.
171 Heading line 3 for Calvado read Calavo.
204 Author for Cook, F. C. read Cooke, F. C.
218 Heading line 2 for VI read XVI.
Text line 20 for mark read mask.
263 Author for Darrow, G. W. read Darrow, G. M.
266 Author for Moog, M. read Moog, H.
294 Brussels number for 634.74 read 633.86

Volume III

- 185 Author for Link, G. K. read Link, G. K. K.
194 Line 3 of p. 74 for Ezelsiel read Ezekiel.
197 Heading line 3 after 116, insert 1932.
326 2nd author for Foley, L. L. read Joley, L.
464 Heading line 2 after Laboratory insert LXVIII.
Heading line 3 for 1932 read 1933.
472 Author for Read, E. M. read Read, F. M.
508 Author for Hey, J. L. read Hey, G. L.

Volume IV

- 49 Brussels number for -1.23 read -1.523.
78 Author for Robinson, R. M. read Robinson, R. H.
86 Heading line 3 after Hilgardia insert 1933.
163 Brussels number for 634.22 read 634.23.
226 Line 2 for solution read suspension.
380 Heading line 3 for 1934, 34:145-54 read 1934, No. 34, pp. 145-54.
437 Author for Reichert, I. D. read Reichert, I.
643 Heading line 2 for argenteum read argentatum.
655 Author for Cook, F. C. read Cooke, F. C.

Abstract

- 119 Author for Agati, J. read Agati, J. A.
203 Author for Darrow, G. M. read Waldo, G. F.
249 Heading line 2 for *flavum* and *Flavum* read *fulvum* and *fulbum*.
337 Last line p. 128 for large increase read large decrease.
Line 2 p. 129 for an increased read a decreased.
349 Author for Littleland, O. read Lilleland, O.
367 Author for Harley, C. B. read Harley, C. P.
417 Author for Hoffman, J. C. read Hoffman, I. C.
446 Author for Matthews, I. read Mathews, I.
482 Heading line 5 for 3 read 18.
497 Heading line 3 for 9 read 6.
595 Author for Paillot, M. A. read Paillot, A.
621 Page 239 line 1 for naphthanamine read naphthylamine.
707 Author for Voelcker, O. S. read Voelcker, O. J.

Volume VI

- 53 Author for Hédin, M. L. read Hédin, L.
54 and 55 Author for Vinet, M. E. read Vinet, E.
70 Author for Fauvre, J. read Faure, J.
78 Author for Staehelin, H. read Staehelin, M.
131 Brussels number for 631.544 read 635.944.
158 Author for Chelvanayagan, A. V. read Chelvanayagam, A. V.
169 Heading line 2 for Recherches sur la geranium read Recherches sur le géranium.
219 Heading line 3 for 1936 read 1935.
238 Heading line 3 for 36 read 76.
262 Author for Stoutemeyer, V. T. read Stoutemyer, V. T.
384 Author for Parsons, T. A. read Parsons, T. H.
427 Lines 5-7 omit from The strengths . . . to metre, and substitute The formalin solutions used were 0·1, 0·3, 0·5 and 0·8 formalin diluted with water to 5 litres and used on 1 sq. metre and 0·8 formalin diluted with water to 10 litres and used on 1 sq. metre.
483 Author for Loewel, E. C. read Loewel, E. L.
557 Author for Else, D. L. read Elze, D. L.
562 Author for Bakhtadze, K. read Bakhtadze, K. E.
564 Heading line 3 for 1935, 5:473-9 read 1935, 5:632-6.
648 Author for van Cauwenbergh, M. E. read van Cauwenbergh, E.
737 Author for Levitt, H. J. read Levitt, J.
Heading line 5 after *Canad. J. Res.*, 1936, 14 insert Sec. C., pp.
935 Heading line 3 for 1936 read 1937.
Brussels number for 633.732 read 633.72.

Volume VII

Abstract

- 32 Line 17 for +2°C rising to -3°C read -2°C rising to +3°C.
122 Brussels number for 577.17 read 577.15.04.
131 Line 2 for magnesium read manganese.
249 Heading line 3 for 15s. 6d. read 1s. 6d.
260 Author for Avery, G. S. read Avery, G. S., Jr.
304 Brussels number for 634.25 read 634.725.
444 Author for Matthews, I. read Mathews, I.
489 Heading line 3 for 1937 read 1936.
516 Author for Buckley, T. E. read Buckley, T. A.
547 Heading line 3 for Bedeutung read Bedeutung.
582 Line 5 for equivalent read percentage.
634 Author for Berry, W. G. read Berry, W. E.
648 Author for Forster, W. R. read Foster, W. R.
731 Heading line 3 for 6 read 66.
928 Line 1 for *Erysiphe* read *Erysiphe*.

Volume VIII

- 9 Author for Wojciechowski, J. read Wojciechowski, J.
12 Heading line 2 for Wasserkulturgefass read Wasserkulturgefäß.
14 Author for Zinc, F. J. read Zink, F. J.
97 Author for Tompkins, C. M. read Tompkins, C. M.
135 Heading line 3 after Züchter insert 1937.
249 Author for Agati, A. read Agati, J. A.
250 Heading line 2 for *gloeosporoides* read *gloeosporoides*.
303 Author for Zhuchkov, N. G. read Zhuchkov, N. G.
443 Heading line 4 for *Ribes* read *Ribis*.
667 Author for Fisher, A. read Fischer, A.
668 Author for Ryabov, I. N. read Riabov, I. N.
669 Line 1 for Vendette read Vedette.
687 Heading line 3 for *S. Afr.* read *N.S.W.*
735 Author for Degmar, E. S. read Degman, E. S.
811 Line 7 for per gall. read per 100 galls.
816 Authors for Delassus, M. and Laffond, M. read Delassus, —, and Laffond, —.
874 Author for Moltzan, R. H. read Moltzau, R. H. Heading line 3 for *U.S. Dep. Agric.* 13 read *Hawaii agric. Exp. Stat.* 13.
899 Author for Kalshoven, L. G. S. read Kalshoven, L. G. E.
928 Heading line 3 for 1937 read 1938.
947 Author for Liebig, G. F. read Liebig, G. F., Jr.
1019 Author for Prescott, E. E. read Pescott, E. E.
1061 Heading line 2 for sottocalciche read solfocalciche.
1079 Author for Drouineau, A. read Drouineau, G.
1228, 1229 and 1230 Headings for *Tropenpflanzer*, 1938, 8 read *Tropenpflanzer*, 1938, 41.
1229 Author for Hulsen, G. read Hülsen, G.
1261 Heading line 4 for 18:342 read 47:342.
1327 Heading line 6 for 19:376 read 47:376.

Volume IX

- 83 Author for Quin, D. G. read Quinn, D. G.
90 Author for Haas, P.G. read de Haas, P.G.
92 Author for Thompson, R. H. K., read Thomson, R. H. K.
212 Author for Quale, H. J. read Quayle, H. J.
307 Heading line 5 for 309-40 read 309-36.

Abstract

- 309 Heading line 4 for 341-53 read 337-45.
319 Author for Nelson, G. A. read Nelson, G. A. H.
339 Heading line 3 for 1938 read 1939.
389 Author for McMurtrey, J. E. read McMurtrey, J. E., Jr.
411 Author for Kuzhetsov, P. V., read Kuznetsov, P. V.
447 Author for Clark, H. read Clark, J. H.
482 Heading line 3 for *Canopia* read *Conopia*.
583 Line 4 for *conidium* read *aonidum*.
597 Author for Spukhin, M. read Siukhin, M.
630 Author for Johnpulle, A. R. read Johnpulle, A. L.
683 Line 3 for author read authors.
702 Heading line 2 for S.1 read 168.
754 2nd Reference line 2 after plants insert [Russian].
778-779 Between these abstracts insert the heading Rootstocks.
799 Author for Cowart, E. F. read Cowart, F. F.
900 Brussels number for 632.19 read 632.8.
1107 Author for Zimmermann, P. W. read Zimmerman, P. W.
1119 Author for Avery, G. S. read Avery, G. S., Jr.
1146 Author for Faure, J. read Faure, J. F.
1185 Number for 185 read 1185.
1200 Heading line 3 after phytohormones. insert (Results of applying growth substances to grafted vines).
1471 Brussels number insert 664.85:547.314.2.
1498 Heading line 3 for stones read stone oil.
1511 Heading line 3 for London read London, 1939.
1535 Reviewer's initials for G. W. H. read E. W. H.
Heading line 2 for Agricultural read Agriculture.
- ## Volume X
- 107 Author for Dane, F. read Dame, F.
(450) 11th Reference for *Scientific Reports of the Imperial Research* read *Scientific Reports of the Imperial Agricultural Research*.
(460) Author for Avery, G. S. read Avery, G. S., Jr.
484 Author for Ryabov, I. N. read Riabov, I. N.
510 Brussels number for 634.725 read 634.722.
Heading line 3 and text line 1 for gooseberries read red currants.
682 Author for Baktadze, K. E. read Bakhtadze, K. E.
815 Author for Avery, G. S. read Avery, G. S., Jr.
884 Heading line 4 for 1940, pp. 54-7 read 1940, pp. 47-8.
915 Author for Morris O. H. read Morris, O. M.
(950) Author for Stene, A. read Stene, A. E.
1090 Author for Rabak, R. read Rabak, F.
1122 Author for Liebig, G. F. read Liebig, G. F., Jr.
1263 Author for Quale, H. J. read Quayle, H. J.
1305 Footnote for 1 morgen = .63 acres read 1 morgen = approx. 2½ acres.
1397 Author for Glasscock, R. H. read Glasscock, H. H.
1458 Author for Cheesman, E. C. read Cheesman, E. E.
1493 Author for Horn, Ch. read Horn, C. L.
1550 Heading line 2 for Vol. read 1940, Vol.
1558 Author for California read California Avocado Association.

INDEX
TO
HORTICULTURAL ABSTRACTS

Volumes I - X. 1931 - 1940

Compiled by
D. AKENHEAD, Deputy Director



IMPERIAL BUREAU OF HORTICULTURE AND
PLANTATION CROPS
EAST MALLING, KENT, ENGLAND

September, 1941

Price 25/-

PRINTED IN GREAT BRITAIN BY HEADLEY BROTHERS
109 KINGSWAY, LONDON, W.C.2; AND ASHFORD, KENT

COMPILER'S FOREWORD

The aim of this work is to complete the information given in Volumes I-X of Horticultural Abstracts by a comprehensive subject and author index of their contents.

It is thought that the research worker will find in the text and index of this journal a fairly full annotated bibliography of horticultural research literature published in every part of the world during the years 1931-1940.

The compiler would welcome not only information on any specific errors noted but also suggestions for the improvement of layout in any future index.

Practical Notes

(1) Subject Index

The index has been compiled with the different crop plants as the chief points of interest and the fullest references will generally be found under the headings of individual fruit or plantation crops.

The object has been to make the information as readily available to the English speaking horticultural worker as possible.

Clear definition has not been possible in every case, since not only do the so-called common names vary from country to country and even within countries, but also scientists have been known to differ with vehemence as to the correct generic and specific names of many common plants, diseases and pests.

Generally speaking, where the item indexed is the common English name of a plant, pest or disease, and this is known to be, or be caused by, one definite identified organism, the scientific name is given in brackets immediately after the entry. This does not apply to such articles of (normal) everyday life as the apple, orange, onion, etc. The converse obviously cannot hold good since the common names of many plants are legion. Thus the following entries will be found:—Apple fruit miner (*Argyresthia conjugella*); Baobab (*Adansonia digitata*); but *Acrobasis caryae*; *Adansonia digitata*; Apple dieback; Banana . . .

(2) Author Index

The user of the author index may be induced to bear patiently with its redundancies and errors by the following consideration.

The aim throughout the compilation of the abstracts and the index has been to give the name and initials of the author exactly as found in the original, irrespective of whether he has given all his initials on each occasion or has always spelled his name with exactly the same letters.

The transliteration of Slavonic names has given rise to many anomalies. Extenuating circumstances are:—1. Slavs write original articles in other languages and their names appear in the transliterated form of the language used. 2. Abstractors frequently use the anglicized form given in the Slavonic article abstracted. 3. There have been many different abstractors.

Acknowledgments

The compiler wishes to acknowledge gratefully the extremely valuable help afforded him by Mrs. B. Akenhead both in indexing and checking and by the clerical staff of the Bureau in the seemingly interminable task of unravelling and ordering the names of authors.

HORTICULTURAL ABSTRACTS

Subject analysis of abstracts

Volumes I-X, 1931-1940

Volumes I-V contain also many unnumbered references to articles noted but neither abstracted nor indexed.

Volumes VIII-X also contain references to articles noted but not abstracted. In these volumes, however, the references are numbered, more than one reference often being entered under one and the same number. Note is made of these in the subject index with a bracket round the number, e.g. VIII (1072). In the figures given below each one of these numbers—applicable to one or more references—has been counted as one abstract.

	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Totals No.	Totals %	Summary for 10 years. No. of abstracts.	Percentage of total.		
Miscellaneous	..	21	20	25	24	24	62	70	130	152	161	689	7.1	689	7.1	
Deciduous crops—																
Tree fruits	..	146	100	110	154	134	137	139	172	187	163	1,442	15.0			
Small fruits and nuts	..	24	22	27	24	33	.32	29	62	43	47	343	3.6			
Vines	14	18	20	31	16	27	28	34	31	29	248	2.6		
Plant protection	..	13	42	90	96	136	162	227	162	199	191	1,318	13.3			
Vegetable growing	8	47	59	63	106	122	144	183	190	922	9.7			
Flower growing	3	18	23	24	44	46	50	56	38	302	3.2	Deciduous crops ..	4,575	
Citrus and sub-tropicals	..	49	47	53	63	98	118	113	147	185	150	1,023	10.8		47.4	
Tropical crops	84	105	149	125	136	164	176	224	237	280	1,680	17.6	Tropical and sub-tropical crops ..	2,703
Storage	36	20	30	27	37	59	68	94	84	127	582	6.2		28.4
Packing, processing and fruit products	..	22	14	17	31	32	45	61	81	78	83	464	4.9	Storage, preservation and processing ..	1,046	
Reviews on books, notes on reports	..	19	22	30	39	14	52	41	80	109	130	536	5.7	Reviews on books, notes on reports ..	536	
Totals	..	428	421	616	696	747	1,008	1,120	1,380	1,544	1,589	9,549	99.7		9,549	99.7

SUBJECT INDEX

Horticultural Abstracts, Vols. I-X

- Abacá (*Musa textilis*), see Hemp, Manila**
- Abbreviations, international code, IX, 685**
- Abronia augusta, V, 296**
- Abscission—**
cacao flower, III, 398
immature apples, *see* Apple fruit drop
orange fruit, VII, 719; X, 644
premature, peach, VII, 32, 877; VIII, 1034
- Absorption—**
capacity in fruit trees, III, 18, 459
lag and root resistance in sunflowers, VIII, 641
transpiration ; ratio, VII, 276
- Acanthopsyche junodi, VIII, 452**
- Acanthoscelides obsoletus, IX, 104**
- Acarine disease of bees, III, 26**
- Accounts, horticultural, *see also* Costings, III, 276**
- Acer platanoides as rubber plant, X, 1490**
- Acetaldehyde—**
affects catabolism of carbohydrate, VIII, (1292)
in apple fruit, VI, 947
for gas storage, I, 199
- Acetic acid, α -naphthalene, *see* Growth substances**
- Acetylene—**
for colouring fruits, II, 371; V, 155, 506; IX, 1471; X, 730
as growth substance, VI, 123
to induce flowering in pineapple, VIII, 879
for ripening fruits, I, 313; VIII, 886; X, 392
- Achaea obvia, X, 1422**
- Achatina fulica control, VIII, 1189; IX, 235, 1382**
- Achras zapota, *see* Chico and Sapodilla**
- Achuete (*Bixa orellana*), *see* Annatto**
- Acidity in canned fruits, VIII, 1320**
- Acids—**
non-volatile, organic, in fruits, I, 72, 73, 74, 107
organic—
from fruits and berries, VIII, 292
from mulberry leaves, VIII, 293
- Acrobasis caryaæ, VIII, (467)**
- Acta agraria vadensis, VI, 1007**
- Actinidia—**
chinensis, VII, 304; VIII, 50
fruit-bearing climbers, X, 507
genus, literature on, VIII, (715)
spp. berries contain vitamin C, IX, 75
- Adansonia digitata, II, 378; X, 247**
- Aecidium grossulariae, VII, 899**
- Aegena tipuliformis, VI, 94.**
- Aesculus, growth hormone in, VII, 260**
- Africa—**
south-west, vinegrowing prospects in, IV, 208
west—
textbook of agriculture, IV, 305
useful plants of tropical, VII, 1109
- Agave, *see also* Sisal**
- Agave—**
amaniensis, IV, 112
cantala, leaf morphology of, X, 1434
fibres, VII, 182, 739; VIII, 1195
in the Philippines, VIII, 219
sisalana, *see* Sisal
- Agelastica alni, as fruit pest, IX, 1242**
- Agricultural situation, 1931-2 and 1932-3, III, 433 ; IV, 495**
- An agricultural testament, X, 1259**
- Agriculture and animal husbandry in India, IX, 1535; X, 1571**
- Agriculture and Forestry Notes, X, 791**
- Agriculture, tropical, bibliography, III, 272; IV, 503**
- Agrilus sinuatus, V, 61**
- Agrume, origin of word, X, 189**
- Alberta, fruitgrowing in, IV, 11**
- Albizia—**
julibrissin, disease of, X, 625
malocarpa, shade for coffee, IX, 1022
- Alcohol—**
in apple fruit, VI, 947
manufacture, VIII, 609, 903; X, 395
from oranges, X, 395
- Alcoholic fermentation of Jerusalem artichoke, VIII, 609**
- Aleurites, *see also* Tung oil**
- Aleurites—**
- cordata*, cultivation, V, 457; IX, 220, 222
 - fordini*, cultivation, IX, 985
 - molluccana*, IV, 274; IX, 220
 - montana*—
cultivation, IX, 985
diseases, IX, 986
pests, IX, 987
selection, IX, 983
in Morocco, IX, 981
species, in general, VII, 203; IX, 220, 984
- Aleurocanthus woglumi, X, (648)**
- Algae, growth substance in marine, X, 456**
- Algemeen Landbouw Syndicat A.R. 1937-1939, VIII, 1349; IX, 1532; X, 1569**
- Algeria—**
date palms in, II, 195
diseases of citrus in, VII, 728
- Alkali, *see* Soil alkali**
- Allium cepa, *see* Onion**
- Alloplectus lynchii, plant hormones, IX, 729-731**
- Almond—**
anthracnose (*Gloeosporium amygdalinum*), III, 197
biochemical study of, VIII, 197
bleaching, I, 209
breeding, V, 9; VIII, 68
cultivation, II, 42, 357; VII, 823; VIII, 71, 542; X, 949
fertilizers, nitrogenous, VI, 726
fruit growth, X, (950)
growing—
in Algiers, rootstocks for, IX, 839
in California, VIII, 71
in Holland, varieties, IX, 406
in Italy, VII, 823; X, 90
in South Australia, II, 357
in Spain, X, 949
hardiness, X, 671
harvesting, VIII, 1029
as host of plum bacterial canker, VIII, 742
Italian varieties, X, 90
mycorrhiza, VIII, 1027

SUBJECT INDEX

- Almond (continued)—**
 in Nizhni-Kotthernigan, **VIII**, 1026
 pests, **X**, 1263
 pollination, **V**, 580; **VI**, 17; **X**, 492
 pruning, **II**, 356; **VIII**, 1028
 ripening in Poland, **VIII**, 723
 rootstocks, **II**, 42; **IV**, 168; **VII**, 823; **IX**, 839; **X**, 486
 shot-hole disease (*Coryneum beijerinckii*),
VIII, 747
- Alnarp—**
 apple varieties grown at, **IX**, 763
 State Experiment Station for Vegetables
 A.R. 1937-1938, **IX**, 508; **X**, 1552
Alocasia spp., edible, in Ceylon, **X**, 249
- Aloc, VI**, 537
- Alsophila pometaria**, **V**, 620; **IX**, 876, (1260)
- Altenland**, research work in, **III**, 41, 201; **IV**, 314
- Alternaria—**
citri, **VI**, 218; **VIII**, 1155; **X**, 644
kikuchiana, **IV**, 64
 in lemons, **VI**, 218
passiflorae, **X**, 655, 1364
radicina, **VI**, 777
tenuis—
 causes fig spot, **VIII**, 1049
 causes pear rot, **VIII**, 1053
tomato, **IX**, 1301
- Aluminium—**
 phosphate as fertilizer, **VI**, 157
 sulphate as spray, **VI**, 855; **VII**, 82
- Amani, A.R. E. Afr. Agric. Res. Stat. 1934/5-1936/7**
 and 1937-1938, **VI**, 983; **VII**, 1111; **VIII**, 304; **IX**, 1518, 1519
- Amaryllis—**
 in Bermuda, **IX**, 1522
 pollen longevity, **VII**, 419
 vegetative propagation, **VII**, 420
- Amblypelta cocophaga**, **V**, 487
- Amelanchier** spp., **VIII**, 998
- America**, fruitgrowing in, **III**, 136
- American crab apples**, **III**, 283
- Amherstia nobilis**, **X**, 1583
- Ammonium—**
 bicarbonate in orange storage, **IV**, 481
 and nitrate nitrogen absorption by apple,
IV, 195, 196
 and nitrate nitrogen absorption by tomato,
IV, 195
sulphate—
 loss by rain, **VIII**, 210
 soil reaction and apple root growth, **VIII**, 699
- thiocyanate as herbicide, **VIII**, 461
- Amorphophallus oncophyllus**, **X**, 1197, 1541
- Ampelidaceae**, diagnosis of hybrid, **III**, 168
- Ampelography**, **II**, 266; **III**, 479; **IV**, 51, 203;
V, 205, 570; **X**, 931
- Ampelopsis quinquefolia**, propagation, **VIII**, 629
- Amphorophora rubi**, raspberry resistance to, **VII**, 892; **IX**, 857
- Amygdalus—**
communis, see Almond
petunnikowii, a peach rootstock, **X**, 489
- Amylases**, studies on action of, **VIII**, (1292)
- Anabasine**, **VI**, 501; **IX**, 1000; **X**, 171
- Anacardium occidentale**, see Cashew nut
- Anagyrus coccidivorus**, parasite of pineapple mealy
 bug, **X**, 1509
- Analysis—**
 ash, **VII**, 812; **X**, 1285, 1286
 of Ceylon foodstuffs, **VIII**, 573
- Analysis (continued)—**
 of mineral elements in plants, **X**, 464
 of nitrogenous fractions, **V**, 183
 of potassium—
 in plant tissues, **III**, 158; **IV**, 350
 in soils, **IV**, 188
 in solutions, **X**, 465
 of replicated experiments, **III**, 275
 semi-micro, **IV**, 350
 statistical, **II**, 101; **III**, 142, 275; **IV**, 507;
VIII, 841; **X**, (850)
 of sugars in pineapple juices, **IV**, 476
- Ananas—**
comosus, see Pineapple
 ecology of, **X**, 1211
- Anastrepha ludens**, **V**, 717; **VIII**, 1192
- Anatolia—**
 agriculture in, **IV**, 144
Prunus cerasifera seedlings of, **IV**, 164
- Ancylis** spp., **VIII**, 449, 1063; **X**, 562
- Andaman Islands**, coconuts in, **III**, 249
- Andropogon muricatus**, essential oil plant, **X**, 1472
- Anemone—**
 the genus, **VII**, 423
 growing, **VIII**, 1119
- Anethole**, **VIII**, 299, 613
- Aneurin**, lemon root stimulation by, **VIII**, 942
- Anguillulina**, *see also* Eelworm
- Anguillulina—**
dipsaci, **VII**, 125, 682; **VIII**, 143, 749; **X**, (1086)
pratensis, and root injury, **VII**, 345
 on tea, **X**, 687
similis, on banana, **IX**, 1045
- Angus**, raspberry growing in, **IV**, 199
- Anise**, essential oil from, **VIII**, 299, 613
- Annapolis valley**, apple pollination, **III**, 463
- Anatto**, cultivation and propagation, **II**, 294;
VIII, 220
- Annona—**
cherimola—
 in Egypt, **VII**, 207
 introduction to Sahara, **VIII**, 522
 pollination, **VII**, 208
- muricata*—
 cultivation, **VII**, 463
 insecticidal properties, **X**, 1160
 morphology, **VI**, 387
 pests, **VII**, 1039, 1040
- spp.*—
 in Egypt, **VII**, 207, 208
 insecticidal properties, **X**, 1160
- squamosa*—
 cultivation, **VI**, 586
 in Egypt, **VII**, 207
 morphology, **VI**, 387
 pollination, **V**, 716; **VII**, 208
 storage, **VIII**, 278
- Annual Bulletin divisional Reports Fiji Dep. Agric.,**
 1932 and 1937-1938, **III**, 616; **IX**, (726), (1544);
III, 616; **IX**, (726), (1544)
- Annual Reports**, *see also* Reports
- A.R. Algemeen Landbouw Syndicaat**, 1937-1939, **VIII**, 1349; **IX**, 1532; **X**, 1569
- A.R. Alnarp State Experiment Station for Vegetables**, 1937-1938, **IX**, 508; **X**, 1552
- A.R. Amani E.Afr. Res. Stat.**, 1934/5-1936/7 and 1937-1938, **VI**, 983; **VII**, 1111; **VIII**, 304; **IX**, 1518

SUBJECT INDEX

Annual Reports (*continued*)—

- A.R. Antigua Dep. Agric., 1935, 1937-1938, VI, 984; VIII, (1378); X, (450)
 A.R. Arizona agric. Exp. Stat., 1936/7-1938/9, VIII, (1378); IX, 1520; X, 1589
 A.R. Arkansas agric. Exp. Stat., 1938/9, X, 1553
 A.R. Assam Dep. Agric., 1936/7-1938/9, VIII, (1378); IX, (1544); X, 1554
 A.R. Australia C.S.I.R., 1936/7-1938/9, VIII, 1343; IX, 691; X, 1270
 A.R. Basutoland Dep. Agric., 1937/8-1938/9, IX, (1544); X, 1555
 A.R. Berlin Dahlem Horticultural Research Institute, 1930 and 1933, II, 98; IV, 497
 A.R. Bermuda Dep. Agric., 1937-1938, VIII, 1344; IX, 1522
 A.R. Besoekisch Proefst. Rubb., Koff., Tabak., 1936/7-1938/9, IX, 715; X, 1570
 A.R. Bihar Dep. Agric., 1936/7, VIII, 1345
 A.R. British Columbia Dep. Agric., 1935 and 1937, VI, 986; VIII, 1346
 A.R. British Guiana Dep. Agric. Div. Reps., 1937-1938, IX, (726); X, (792)
 A.R. British Guiana Dir. Agric. Administ. Rep., 1937-1938, VIII, (1378); X, (450)
 A.R. British Honduras Dep. Agric., 1937-1939, IX, (726); X, 1556
 A.R. British Somaliland vet. agric. Dep., 1937-1938, VIII, 1368; IX, (726)
 A.R. Burma Dep. Agric. agric. Stats., 1936/7-1938/9, VIII, (1378); IX, (726); X, (450)
 A.R. Burma Dep. Agric. Operations, 1938/9, X, 1557
 A.R. Cacao Research, Trinidad, 2nd and 3rd, III, 430; IV, 504
 A.R. Carnegie Institution, Washington, Division of Plant Biology, 1937/8-1938/9, IX, 690; X, 1562
 A.R. Cawthon Inst., N.Z., 1937-1938, VIII, 1348; IX, 1526
 A.R. Ceylon Coconut Res. Scheme, 1935-1939 (various departments), VI, 987; IX, 1528, 1529, (1544); X, 1563
 A.R. Ceylon Dir. Agric. Administ. Rep., 1935-1938, VII, 1112; IX, 1527; X, 1564
 A.R. Cheshunt exp. Res. Stat., 1930, 1933 and 1935, II, 308; IV, 496; VI, 988
 A.R. Cocoa Res. Stat. Tafo, Gold Coast, 1937/8, IX, 699
 A.R. Coffee Res. Exp. Sta. Lyamungu, Moshi, 1934-1937, V, 690; VI, 1003; VIII, 1371, 1372
 A.R. Colorado agric. Exp. Stat., 1938/9, X, (1589)
 A.R. Costa Rica Minist. Agric., 1938, IX, 1530
 A.R. Coun. sci. industr. Res. Australia, *see* A.R. Australia C.S.I.R.
 A.R. Co. Armagh Horticultural Instructors, 37th and 38th, VIII, 1342; IX, 1531
 A.R. Cyprus Dep. Agric., 1937-1938, IX, (726); X, 433
 A.R. Date Growers' Institute, 15th, IX, 692
 A.R. Delaware agric. Exp. Stat., 1936/7-1938/9, VIII, (1378); IX, (726); X, 774
 A.R. Dep. sci. industr. Res. New Zealand, *see* A.R. New Zealand D.S.I.R.
 A.R. Development Commissioners, Lond., 1937/8-1938/9, IX, 693; X, 1568
 A.R. Dominica Dep. Agric., 1936-1939, VIII, 307, (1378); X, (450), (1589)

Annual Reports (*continued*)—

- A.R. Domin. Canada, Minist. Agric., 1936/7-1938/9, VIII, 306; IX, 688; X, 1561
 A.R. Domin. Canada Nat. Res. Coun., 1935/6-1938/9, VIII, 305, 1347; X, 432, 780
 A.R. East African agric. Res. Sta., *see* A.R. Amani
 A.R. East Malling Res. Stat., 1931-1933, II, 208; III, 273; IV, 313
 A.R. Edinburgh and East of Scotland agric. Coll., 1937/8-1938/9, IX, 695; X, 775
 A.R. Eire Minist. Agric., 1938/9, X, (450)
 A.R. Fiji Dep. Agric., *see* Annual Bulletin divisional Reports, Fiji Dep. Agric.
 A.R. Florida agric. Exp. Stat., 1936/7-1937/8, VIII, 1350; IX, 1533
 A.R. Food Investigation Board, Lond., 1931, 1932, and 1935, II, 307; IV, 312; VI, 989
 A.R. Food Investigation Board, Lond., Section VII, Canning, 1935-1937, VI, 989; VII, 1092; VIII, 1313
 A.R. Food Investigation Board, Lond., Sect. VIII, Engineering, 1937, VIII, 1255
 A.R. Gambia Dep. Agric., 1936/7-1938/9, VIII, (1378); IX, (726), (1544)
 A.R. Geisenheim on Rhine Research Station, 1930-1933, 1935-1937, II, 99; III, 434; IV, 498; VI, 990; VIII, 1351; IX, 697
 A.R. Georgia agric. Exp. Stat., 1936/7-1937/8, VIII, (1378); IX, 698
 A.R. Gold Coast Dep. Agric., 1936/7, *see also* Report, VIII, (1378)
 A.R. Grenada Dep. Agric., 1938, X, (450)
 A.R. Hawaii agric. Exp. Stat., 1937-1939, VIII, 1352; IX, 1534; X, 776
 A.R. Hillsborough agric. Res. Inst., 1938/9, IX, (1544)
 A.R. Hong Kong Supt. Bot., 1937-1938, VIII, (1378), IX, (1544)
 A.R. Illinois agric. Exp. Sta., 1935/6-1936/7, VIII, 1353; X, 777
 A.R. Imp. Coll. Trop. Agric. Trinidad, 1935/6-1938/9, VII, 1113; VIII, (1378); IX, (726); X, 1584
 A.R. Imp. Coun. agric. Res. India, 1939/40, X, 1572
 A.R. Indian Tea Ass. sci. Dep. Toklai, 1935-1938, VI, 992; VIII, 310; IX, 703; X, 435
 A.R. I.N.E.A.C.* 1934, 1935, and 1938, VI, 241; VII, 252; X, 436
 A.R. Iowa agric. Exp. Sta., 1930/31 and 1936/7-1938/9, II, 311; VIII, 1355; IX, 705; X, 1574
 A.R. Jamaica Dep. Agric., 1935, 1937 and 1938, VII, 1114; IX, (726); X, 1575
 A.R. Jersey (President du Comité d'Agriculture), 1936-1937, IX, 706
 A.R. John Innes Institution, 1938-1939, X, 437, 1576
 A.R. Kenya Dep. Agric., 1935, 1937 and 1938, VI, 994; IX, (726); X, 438
 A.R. Kodur Fruit Res. Stat. Madras, 1936/7, VIII, 1357
 A.R. Lange Ossekampen, 1935 and 1938, VII, 251; X, 1577
 A.R. Low Temperature Res. Stat. Lab. Capetown, 1935/6-1936/7, VIII, 1256; IX, 1542
 A.R. Madras Dep. Agric. sub. Officers, 1936/7-1938/9, VIII, 1358; IX, (1544); X, (779)

* Institut national pour l'étude agronomique du Congo belge.

SUBJECT INDEX

Annual Reports (continued)—

- A.R. Madras Operations Dep. Agric., 1936/7-1938/9, VIII, (1378); IX, (1544); X, 778
 A.R. Madras Work on the Agricultural Stations, 1937/8, IX, 1536
 A.R. Maine agric. Exp. Sta., 1936/7-1937/8, VIII, 1359; IX, 1537
 A.R. Malaya Dep. Agric., 1937-1938, VIII, (1378); X, 440
 A.R. Malta Dep. Agric., 1937/8, IX, (1544)
 A.R. Massachusetts agric. Exp. Stat., 1936/7, VIII, 1360
 A.R. Mauritius Dep. Agric., 1937-1938, IX, (726); X, (1589)
 A.R. Mazoe Citrus exp. Stat., 1932, 1934, 1935 and 1937, III, 528; VI, 995; VII, 786; X, 773
 A.R. Minnesota agric. Exp. Stat., 1936/7, IX, (726)
 A.R. Mysore Coffee sci. Officer, 1930/31 and 1937/8, II, 283; VIII, 1361
 A.R. Mysore Govt. Gdns. Dep., 1936/7, VIII, (1378)
 A.R. Mysore State Dep. Agric., 1930/31 and 1935/6, II, 421; VIII, 311
 A.R. Mysore State Dep. Hort., 1933/4, VI, 423
 A.R. National Institute Agricultural Botany, Cambridge, 1938/9, X, (1589)
 A.R. Nebraska agric. Exp. Stat., 1937-1939, VIII, (1378); IX, (1544); X, (1589)
 A.R. New Zealand Dep. Agric., 1930/31 and 1937/8-1939/40, II, 96; VIII, 1363; X, 443, 1578
 A.R. New Zealand D.S.I.R., 1930/31-1932/3, 1934/5-1935/6 and 1937/8-1939/40, II, 97; III, 274; IV, 308; VI, 997; VII, 250; VIII, 1362; X, 445, 1579
 A.R. Nigeria Dep. Agric., 1936-1938, VIII, 1364; IX, 713; X, 782
 A.R. N. Carolina agric. Exp. Stat., 1936/7-1937/8, IX, 714, 1539
 A.R. N. Rhodesia Dep. Agric., 1937-1938, VIII, (1378), IX, (1544)
 A.R. Nova Scotia Fruitgrowers' Ass., 1939, X, 1580
 A.R. Nyasaland Prot. on Agriculture, 1937-1938, IX, (726), (1544)
 A.R. Ohio agric. Exp. Stat., 1936/7, IX, (1544)
 A.R. Palestine Dep. Agric., 1935/6-1936/7, and 1938/9, see also Report, VII, 1115; VIII, 1365; X, 1581
 A.R. Pennsylvania agric. Exp. Stat., 1936/7-1938/9, VIII, (1378); IX, (726); X, 447
 A.R. Queensland Acclimatisation Soc., 1937/8-1939/40, IX, 717; X, 785, 1582
 A.R. Queensland Dir. Plant Ind., 1939, X, 784
 A.R. Res. Stat. Vorstenland Tobacco, 1937/8, IX, 716
 A.R. roy. Swedish Academy of Agriculture, 1939, X, 786
 A.R. Rubber Res. Bd, Ceylon, 1933, 1936-1939, IV, 505; VII, 1116; VIII, (1378); X, 450, 1565
 A.R. Rubber Res. Inst. Malaya, 1935-1938, VI, 999; IX, 710; X, 441
 A.R. Seale Hayne agric. Coll. Dep. Plant Path., 1937/8, IX, 1540
 A.R. Seychelles Dep. Agric., 1936-1938, VIII, (1378); IX, (726); X, (450)

Annual Reports (continued)—

- A.R. Sierra Leone Dep. Agric., 1935-1937, VI, 1000; VIII, 1367; IX, (726)
 A.R. Sisal Exp. Stat. Tanganyika, 1937, VIII, 1373
 A.R. S. African Co-op. Citrus Exch. Dir.'s Rep., 1938, IX, 1541
 A.R. S. African Deciduous Fruit Exch. Overseas Representative, 1937/8, VIII, 1369
 A.R. S. Africa Dep. Agric., 1931/2 and 1936/7-1938/9, III, 132; VIII, 313; IX, 718; X, 448
 A.R. S. Australia Minist. Agric., 1936/7-1938/9, VIII, (1378); XIX, 719; X, 787
 A.R. S. Rhodesian Tobacco Res. Bd., 1937, IX, 720
 A.R. St. Kitts-Nevis Dep. Agric., 1938, IX, (1544)
 A.R. St. Vincent Dep. Agric., 1937-1938, IX, 721; X, 788
 A.R. Station fédérale d'essais viticoles à Lausanne—et Domaine de Pully, 1930 and 1936-1937, II, 100; VIII, 1356; IX, 709
 A.R. S.S. & F.M.S. Dep. Agric. Field Branch, 1937, VIII, 1370
 A.R. S.S. and F.M.S. Dep. Agric. Res. Econ. Educ. Branches, 1932 and 1935, III, 615; VI, 1002
 A.R. S.S. Dir. Gdns, 1938, IX, (1544)
 A.R. Sudan Dep. Agric., part II, 1937, IX, (726)
 A.R. Sudan Dep. Agric. agric. Res. Scheme, 1936, VIII, (1378)
 A.R. Sugar Cane Investigations Trinidad, 1937-1939, VIII, (1378); IX, (726); X, (450)
 A.R. Summerland exp. Stat., 1930, see also Report, I, 428
 A.R. Tanganyika Dep. Agric., 1935 and 1937-1938, VI, 1004; VIII, (1378); IX, (726); X, (450)
 A.R. Tanganyika gen. Exp. Farms, 1937, VIII, (1378)
 A.R. Tea Res. Inst. Ceylon, 1936-1937 and 1939, VIII, 315, (1378); X, 1567
 A.R. Texas agric. Exp. Stat., 1931 and 1938, II, 310; X, (1589)
 A.R. Toklai exp. Stat., see A.R. Indian Tea
 A.R. Trinidad and Tobago Dep. Agric., 1931 and 1935-1938, III, 134; VI, 1005; VII, 1117; VIII, (1378); X, 1583
 A.R. Uganda Dep. Agric., 1932, 1934/5-1936/7, 1937-1938 and 1938/9, part 2, IV, 148; VI, 422, 1006; VII, 1118, 1119; VIII, 1374; IX, (726); X, (450), 1585
 A.R. Vegetable Res. Stat., Norway, 1937/8, X, 446
 A.R. Vineland hort. exp. Stat., 1937/8-1938/9, IX, 722; X, 1586
 A.R. Waite agric. Res. Inst., 1937/8, X, (1589)
 A.R. Washington State agric. Exp. Stat., 1934/5 and 1936/7-1937/8, VI, 1008; VIII, (1378); IX, 723
 A.R. Zanzibar Dep. Agric., 1937-1939, VIII, 1377; IX, 1543; X, (1589)
 Annuals, tropical, and plot lay-out, VIII, 208
Anona, see *Annona*
 Ant—
 control, III, 347, 383; VII, 991; VIII, 457, 1191; IX, 488; X, 564
 fungus growing (*Atta* spp.), VII, 1005; IX, 590

SUBJECT INDEX

Ant (*continued*)—

- the garden (*Tapinoma simrothi*), X, 564
- a leaf cutting (*Atta texana*), IX, 590
- Antestia*, or coffee bug, III, 241; VIII, 857
- Anthocyanins, a survey of, IX, 398
- Anthomonus*—
 - pomorum*, see Apple blossom weevil
 - pyri*, IX, 1249
 - rubi*, VII, 655
 - signatus*, see also Strawberry weevil, VIII, (467)
- Anthophila pariana*, VIII, 748
- Anthores leuconotus*, VII, 459
- Anthoxanthum odoratum*, VIII, 829

Anthracnose—

- almond (*Gloeosporium amygdalinum*), III, 197
- apple (*Neofabraea malicorticis*), X, 108
- artichoke (*Ascochyta horotorum*), VIII, 474
- banana, see Banana black end
- currant and gooseberry (*Pseudopeziza ribis*), VI, 306; VIII, 443
- in citrus (*Colletotrichum gloeosporioides*), VI, 861; VIII, 895
- dwarf bean (*Colletotrichum lindemuthianum*), VIII, 770
- mango, V, 131; VIII, 250; X, 290
- red raspberry (*Plectodiscella sp.*), III, 196
- vine (*Elsinoë ampelina*), VII, 901; IX, 1221; X, (546)

Antigua Dep. Agric. A.R. 1935 and 1937-1938, VI, 984; VIII, (1378); X, (450)

Antirrhinum—

- downy mildew, IX, 549
- eelworm (*Heterodera spp.*), VII, 957
- recessive genes in hybrids, IX, (181)
- rust (*Puccinia antirrhini*), IV, 96, 602; V, 77; VI, 531; VIII, 162, 802, 1117; X, 178
- wilt (*Fusarium solani martii*), VII, 957

Anuraphis—

- crataegi*, X, 990
- roseus*, see Aphides, rosy

Anychus orientalis, on citrus, VI, 554; IX, 1350

Aonidiella—

- aurantii*, see also *Chrysomphalus auranti*, IV, 440, 441; V, 100, 101; VI, 367, 862, 865; VII, 730; VIII, 1160; IX, 212, 213
- berlese* and *leonardi*, VIII, 1161
- citrina*, IX, 218

Apanteles congregatus, a parasite of tobacco hornworms, IX, (547)

Aphelenchoides—

- fragariae*, IV, 68; VIII, 1064
- ritzema-bosi*, see also Eelworm of chrysanthemum, IV, 423
- Aphelenchus oleistius*, VIII, 1122; IX, 456
- Aphelinus mali*, II, 253; V, 234, 402, 608; VII, 902; IX, 108, 871, 1239, 1540; X, 554

Aphides—

- black cherry (*Myzus cerasi*), IV, 70; VII, 85
- of bramble fruits, VIII, 106
- cabbage, VI, 332; VIII, 1094
- carnation, VIII, 505
- celery, IX, 148
- chrysanthemum, V, 432
- citrus (*Toxoptera auranti*), IX, 209
- control—
 - by nicotine supplements, IV, 71
 - by oil washes, IX, 497
 - by tar distillates, IV, 69, 70
- Elaeagnus*, V, 432
- fruit tree, X, (555)
- green apple (*A. pomi*), VII, 353

Aphides (continued)—

- incidence affected by manuring, III, 335
- of market garden plants, X, (598)
- mealy plum (*Hyalopterus pruni*), VIII, 104, 105
- pea, VI, 117; VII, 135, 395
- red leaf (*Anuraphis crataegi*), X, 990
- rose, V, 432
- rosy, IV, 69; VII, 85; IX, 496; X, (1378)
- Rubus*, X, 553, 1361
- sprays for, IV, 69-71; IX, 497
- strawberry, V, 214, 215, 235; VI, 478; VII, 635, 637; VIII, 752; IX, 107, 445, 872; X, 124, 992
- as virus vectors, see also Virus vectors, VIII, 147; X, (1086), 1361
- woolly (*Eriosoma lanigerum*), I, 158; II, 253; III, 335; IV, 397, 398; V, 228, 233, 234, 402, 608; VI, 491-493, 754, 982; VII, 902; VIII, 103, 447; IX, 108, 485, 497, 870, 871, 1140, 1239, 1240, 1535, 1540; X, 554, 869, 870

Aphis forbesi, IX, 107

Aphodius fimetarius, IX, 867

Apical dominance affected by thiourea, V, 24

Apium graveolens, see Celery

Aplanobacter michiganense, VIII, 489; IX, 154; X, 605

Apogamy—

- in citrus, I, 75; II, 159, 160
- in deciduous fruits, VIII, 980
- in mango, II, 160; V, 290
- Apiodea* on apple blossoms, IV, 42
- Apomixis in grape, VIII, (715)
- Apoplexy in stone fruit, III, 327
- Apparatus, see operation in question
- Apple—
 - abscission of fruit, premature, see fruit drop
 - acetaldehyde and alcohol in, VI, 947
 - American crab, III, 283
 - ammonium and nitrate N absorption by, IV, 195, 196
 - ancestors of cultivated, VII, 545
 - angular leaf spot (*Phyllosticta angulata*), IX, 855; X, 985
 - Angululina pratensis*, and root injury in, VII, 345
 - anthracnose (*Neofabraea malicorticis*), X, 108
 - Antonovka, IX, 777, 1147
 - aphid control, IV, 398; X, (1378)
 - aphis—
 - green (*A. pomi*), VII, 353
 - rosy, IV, 69; VII, 85; IX, 496
 - woolly (*Eriosoma lanigerum*), I, 158; II, 253; III, 335; IV, 397, 398; V, 228, 233, 234, 402, 608; VI, 491-493, 754, 982; VII, 902; VIII, 103, 447; IX, 108, 485, 497, 870, 871, 1140, 1239, 1240, 1535, 1540; X, 554, 869, 870

arsenic on—

determination, I, 421

injury from, and retention of, see also Apple, spray residues, IV, 390; VIII, 767

ascorbic acid in, see vitamin C

Australian investigations on, V, 529

Australian, picking and storing, X, 727

Belle de Boskoop, II, 24; IV, 185; VIII, 692

bending versus pruning, VII, 37

biennial bearing in, I, 232, 233, 338; II, 17,

129, 327, 331; III, 296, 305, 308; IV, 355,

356; V, 182, 352, 367, 368; VI, 268;

VII, 574; VIII, 988, 990; IX, 429, 1178;

X, 885, 886

SUBJECT INDEX

- Apple (continued)—**
- bitter pit in, IV, 216, 696; V, 44, 590; VII, 610, 614, 615; VIII, 400, 584, 726, 736; IX, 307; X, 97, 956, 957
 - black spot, *see* scab
 - blackening caused by *Sclerotinia* sp., IV, 381
 - blossom—
 - morphology, VI, 19; IX, 764
 - thinning induces annual bearing, IX, 1178
 - weevil (*Anthonomus pomorum*), IV, 396; V, 229, 230; VI, 498; VII, 654; VIII, 755; IX, 480, 494, 1248
 - blotchy cork, VI, 596; VII, 326, 885
 - blue mould on (*Penicillium expansum*), VI, 745; VII, 343; IX, 663; X, (1240)
 - bordeaux, advantages and disadvantages of, on, VIII, 102, 760
 - boron—
 - affecting cork in, V, 385; VI, 466, 596; 883, 885; VIII, 396, 654, 734, 735; IX, 92, 93; X, 467, 471, 472, 531, 955, 958
 - content, VII, 616, 884
 - deficiency disease, X, 955
 - status of N. Zealand, X, 1353
 - status of S. Australian, VII, 616
 - boxes, sterilization, IX, 663
 - in breadmaking, IX, 327
 - breakdown, IV, 478; V, 732; VI, 209; VIII, 584
 - breeding, III, 287, 288, 447; IV, 20-23, 159, 160, 169, 321, 341; V, 9, 47, 336, 598, 599; VII, 542-545, 824, 830; VIII, 19, 364, 365, 672, 960, 962, 963; IX, 40, 97, 410; X, 858
 - bridge grafting, VII, 918; IX, 412, 777
 - brown heart, VIII, 583
 - bruising of, in store, IV, 291; V, 732
 - bud—
 - differentiation, *see also* flower bud, III, 296, IX, 428; X, 887
 - mutation, II, 9, 123, 216, 320; III, 151; IV, 161; V, 17; IX, 774, 1153
 - budding—
 - technique, IV, 166, 323; IX, 44, 46, 775
 - with or without stubs, IV, 166, 323
 - bush or trunkless, VI, 654
 - butter, IX, 1484
 - by-products, X, 764
 - calcium cyanamide for, VIII, 696; IX, 814
 - deficiency in, VI, 731
 - callus knots on piece root grafts, IV, 167
 - canker—
 - (*Nectria galligena*), IV, 220; VI, 486, 746; VII, 70; IX, 863
 - (*Sclerotinia fructigena*), IX, 477
 - (*Valsa ambiens*), III, 497
 - perennial (*Gloeosporium perennans*), III, 333; IX, (1234); X, 108
 - canned, vitamin C in, X, 390
 - capsid (*Plesiocoris rugicollis*), II, 244; III, 206; VII, 658; IX, 487, 497
 - carbohydrates and N in, *see* metabolism
 - CO₂ assimilation affected by sulphur sprays, VI, 762
 - cases for export, *see* packing
 - catalase activity in, V, 355; VI, 948
 - chromosomes, II, 12; IV, 22, 160, 162
 - cider, I, 212; IV, 486; V, 313, 511; VI, 11, 486; VII, 794; VIII, 908, 964; IX, 759; X, 857, 914
 - Circassian seedlings, II, 214
 - clearwing (*Conopia myopiformis*), IX, 867
 - codling moth on, *see* Codling moth
 - Apple (continued)—
 - collar rot (*Phytophthora cactorum*), IX, 456
 - colour, II, 28, 104; III, 29, 304, 307; V, 366; VII, 297; X, 917-919
 - colouring, sun, X, 1333
 - compatibility, *see* rootstocks
 - composition, III, 155, 163; V, 355-357, 549; VI, 948; VIII, 602
 - composition of trees on different rootstocks, IX, 1158
 - Coniosporium* disease, IX, 99
 - Coniothecium chromatosporosum* on, X, 111
 - Conotrachelus nenuphar* as pest of, IX, 1243
 - cordons, II, 306; VI, 996; VIII, 703; IX, 343
 - core flush, VIII, 726
 - cork in, II, 341; III, 184; IV, 352; V, 385; VI, 294, 466, 596; VII, 62, 63, 315, 323-326, 617, 618, 620, 788, 885; VIII, 396, 654, 655, 734, 735; IX, 92, 93, 845, 1056; X, 467, 471, 472, 955, 958, 959
 - corky core, VI, 730; VII, 315, 325, 883; VIII, 396, 397; IX, 91
 - corky pit, V, 384; VI, 730; VII, 62
 - costs and returns in Quebec, IX, 33
 - cover crops, X, 1325
 - crab—
 - American, III, 283
 - Japanese flowering, IV, 17
 - stocks, clonal, X, 1315, 1316
 - cracking of fruits, VI, 26; IX, 853
 - crisps, IX, 1484
 - crotch angles, VI, 698
 - crotch angles and growth hormones, IX, 1168
 - crown gall (*Bacterium tumefaciens*), III, 328; IV, 375, 376; VII, 336; VIII, 743; X, 537
 - culinary properties of Minnesota, IX, 665
 - cull, factors governing, III, 33
 - cultivation versus grass for, VII, 579
 - cultural operations, VIII, 402
 - curlculo—
 - (*Tachypterus quadrigibbus*), VII, 79
 - of plum, pest on, IX, 1243
 - cuticle, changes in, III, 415
 - cuttings—
 - etiolation methods for, VII, 829
 - German experiments with, VII, 828
 - root, I, 36, 334; V, 345; VI, 258, 262; VIII, 367; IX, 45
 - rooting in, V, 345; VIII, 382
 - cyanamide as fertilizer, *see* calcium cyanamide
 - cytology, II, 19; IX, 773
 - Danish varieties of, IX, 38
 - defoliation—
 - affects rootgrowth, VI, 664
 - due to *Phyllosticta prunicola*, IX, (893)
 - dehydration, VII, 773; IX, 664
 - Delicious, colour strains, II, 9; IV, 161
 - dieback in, III, 497; X, 531
 - diploids as rootstocks, VII, 555
 - disease control in S. Rhodesia, VIII, 101, 1035; X, 951
 - dormancy and growth substances, IX, 430
 - double working, IV, 30; VI, 658; VIII, 973; IX, 44, 50, 418-420, 456, 783; X, 55, (921)
 - drought—
 - effect on, III, 309; IV, 527
 - spot in, III, 184; VI, 730; VII, 883; VIII, 397; IX, 91
 - Dutch varieties, IX, 406
 - dwarf—
 - seedlings, IV, 519
 - trees, X, 868

SUBJECT INDEX

Apple (*continued*)—

ecological investigations, VIII, 664
 egg and zygote sterility in, IV, 20, 341
 emanations of volatile substances, I, 305, 306;
 VI, 600, 601; VIII, 279, 920, 1272; IX,
 1065; X, 321, 728, 1225
 embryo—
 development in culture solution, VIII, 390;
 IX, 1171
 development, time of, VII, 546
 sac, factors affecting, VII, 21
 of England, VI, 612
 English varieties, IV, 19; VI, 612; VII, 538;
 X, 46, 479
 environment affecting, IV, 16
 ethylene—
 treatment, I, 302; IV, 669
 vapour from, *see* Apple emanations
 evaporation of water from, III, 261
 exanthema in, VI, 851
 exports from Australia, II, 200; VIII, 409;
 IX, 662
 eye-spotted bud moth (*Spilonota ocellana*),
 VIII, (1072)
 fertilizers and manures, I, 42-45, 47-51, 145-
 147, 149; II, 25, 28, 233-235, 238, 239;
 III, 302, 303, 335, 452; IV, 16, 35, 37,
 193-197, 342, 346, 348; V, 4, 26, 366, 552;
 VI, 36, 684, 690, 692, 693, 695; VII, 300,
 584, 585, 826, 878; VIII, 45, 392, 470, 696,
 699, 1266; IX, 68-70, 434, 813, 814; X, 70,
 896-898, (921), 1325, 1327
 field experiments, significance of probable
 error in, II, 101
 filler trees, VI, 32; IX, 409
 fireblight (*Bacillus amylovorus*), III, 490;
 IV, 563, 564; VI, 299; VII, 332; VIII, 91,
 1046; IX, 1225; X, (1378)
 flat-headed tree borer (*Chrysobothris femorata*)
 VIII, (467); IX, (1260)
 flea weevil (*Orchestes pallicornis*), VII, 80
 flooding produces cork, X, 959
 flower bud, I, 53, 54, 234, 240; II, 130, 135,
 327; III, 296, 452, 453; IV, 331; V, 350;
 VI, 270; IX, 428; X, 63, 64, 887
 flower bud temperature, VI, 270
 flowering dates, IV, 335; V, 179; X, 495
 frame builders, hardy, X, 1561
 "free" seedling stocks, clonal, X, 1315,
 1316
 freezing in store, IV, 291; VI, 739
 frost—
 hardiness, IV, 23; VII, 317, 629, 870;
 VIII, 75; IX, 459, 461; X, 964, 971
 injury, I, 229; III, 487; IV, 374; V, 42,
 43, 582; VI, 290-292, 472-474, 739;
 VII, 317, 624-628; VIII, 435, 728, 732;
 IX, 89, 459; X, 93
 rings in, VII, 626
 fruit—
 amino-acids and amide in, VIII, (1292)
 anatomy, I, 69; VI, 669; VII, 1065; VIII,
 1267; IX, 1169
 borer (*Grapholita (Cydia) inopinata*), VII,
 75
 bud, *see* Apple flower bud
 calyx end structure in Gravenstein, X,
 498
 catabolism of carbohydrate and acids in,
 VII, 1069; VIII, (1292)
 colour, *see* Apple colour
 composition, *see* Apple composition

Apple, fruit (*continued*)—

correlation of number of seed to weight of,
 IX, 812
 development, time of, VII, 546
 drop—
 incidence, III, 466; VII, 567; X, 73
 prevented by spraying with growth
 substances, X, 499, 500, 891, 892
 relation of seeds to, IX, 1167
 ethylene in, *see* Apple emanations
 fungal invasion, resistance to, VI, 949;
 VII, 1066; VIII, 1274, 1275; X, 326
 histological structure, X, 1321
 hydrogen-ion in, VII, 847, 1068
 miner (*Argyresthia conjugella*), IV, 391;
 VIII, 750
 morphology, II, 19
 nitrogen metabolism, VI, 672; VII, 294,
 295, 1067; VIII, (1292); X, 319, 322
 oil coating for, *see also* Apple, wax applica-
 tion, IX, 1479
 protective layers of, VIII, 385
 quality, factors affecting, II, 225; III, 296;
 V, 200
 set, factors affecting, *see also* Apple
 pollination, IV, 333, 568; VIII, 39, 682,
 684, 692, 705; IX, 61, 887
 size, II, 28; III, 307; IV, 332; VI, 670
 spots, V, 392
 sprays and dusts affect, IV, 333, 568
 wax content, VIII, (1292)
 waxing, *see* Apple, wax application
 X ray examination, VIII, 726; X, 732
 fruitfulness, IV, 21; VIII, 692
 fumigation with methyl bromide, IX, 308
 fungal invasion, resistance to, *see* fruit, fungal
 invasion
 fungi in stored, IV, 292; VIII, 276, 586
 fungicide-insecticide for, V, 595
 fungus flora, V, 392; VI, 741
 gas storage, *see also* storage, I, 100, 302, 304-
 306, 407; II, 414; III, 414, 595; IV, 288,
 669; V, 150, 496, 497; VI, 208, 940, 941,
 953; VII, 485, 487, 1049, 1068; VIII, 583,
 884, 890, 892, 893, 1271, 1286-1288, 1310;
 IX, 302, 1450; X, 323, 1221, 1222
 genetics, *see also* breeding, IV, 159; IX, 1150
 German varieties, III, 8
 girdling, remedies for, VII, 918
 girdling, *see* ringing
 girth as indication of productivity, X, (921)
 grading, I, 415, 416; V, 198; VI, 408; VII,
 852
 graft knots on, *see also* crown gall, VII,
 336
 grafting, IV, 165-167, 520; VI, 259; VII,
 918; IX, 1156; X, 861, 1313
 Gravenstein, calyx end structure, X, 498
 green manuring, VIII, 402
 growing—
 in Australia, *see* Apple, Australian investi-
 gations on
 commercial, VII, 1106; IX, 345
 in England, VII, 665; IX, 345
 in England, varieties used for, VI, 612
 in New Hampshire, II, 8
 in New York, X, 51
 in Ohio, IX, 65
 in Palestine, IV, 12
 in Quebec, production and costs, IX, 33
 in Siberia, varieties for hardiness, VIII, 365
 in South Australia, I, 327

SUBJECT INDEX

- Apple, growing (*continued*)—
 in Sweden, varieties used, **VIII**, 670; **IX**, 763
 in Switzerland, varieties used, **VIII**, 359; **IX**, 39
 in Tasmania, *see* Apple, Tasmanian investigation
 in Ukraine, varieties used, **VIII**, 364
 in U.S.A., **III**, 145
 growth—
 composition of seasonal, **II**, 233
 distribution of, **IV**, 176
 and fruit bud formation, **II**, 327
 : fruiting ratio, **VII**, 565
 leaf area and, *see* leaf area
 in maiden year, **I**, 132
 measurement, **V**, 550; **VI**, 269; **VIII**, 383; **X**, (921)
 in nursery, **II**, 16
 rates, **VIII**, 689
 and winter spraying, **IX**, 888
 hairy root (*Phytonomas rhizogenes*), **IV**, 375, 376; **VI**, 481
 hairy root, non-infectious, **X**, 1312
 hardiness, *see* frost hardiness
 harvesting, *see* picking
 height of trunk in relation to yield, **V**, 344; **IX**, 809
 hybrids, Russian, **VIII**, 960, 962
 identification, **I**, 60, 224; **II**, 107; **III**, 285; **IX**, 764
 inarching rootstocks, **VII**, 25; **IX**, 777, 1177
 inbreeding, **IX**, 40
 inflorescences, **II**, 107; **III**, 285
 injections, **VII**, 294, 295, 601, 602, 607-611
 insects visiting, **III**, 465; **IV**, 42
 intensive cultivation, **II**, 306; **VI**, 31, 996; **IX**, 343
 inter-sterility in, **V**, 180; **VII**, 30
 iodine : starch maturity reaction, **IV**, 529; **VI**, 453
 under irrigation, **II**, 28; **IV**, 175, 352; **V**, 539; **VI**, 40; **VIII**, 991, 992; **IX**, 818
 Japanese flowering crab, **IV**, 17
 Jonathan spot, **VI**, 728; **IX**, 307
 juice, **I**, 214; **III**, 422; **IV**, 297; **V**, 514, 515; **VI**, 227, 604; **VII**, 240, 1095; **VIII**, 901-903, 907; **IX**, 678, 679, 687, 1076-1078, 1484, 1485; **X**, 387, 388, 750, (751), 754, 1579
 keeping quality affected by cultural practices, **IV**, 342, 343; **V**, 355-357; **VII**, 487, 611, 915; **IX**, 436
 layering of root grafts, **VIII**, 969
 layers, root forming ability, **X**, 859
 leaf—
 area, **I**, 55, 56; **II**, 130; **III**, 17, 296, 452; **IV**, 332; **V**, 550; **VI**, 679; **VIII**, 710
 carbohydrate content, **VIII**, 678
 colour and crop, **VI**, 24
 hopper (*Typhlocyba* spp.), **V**, 232; **VI**, 93; **VIII**, 111, (1072)
 miner (*Lyonetia clerkella*), **IX**, 867
 nutrient element used by, **IV**, 35
 photosynthesis, *see* photosynthesis
 relations, **V**, 550
 scorch in seedling, **IX**, 70
 skeletonizer (*Anthophila pariana*), **VIII**, 748
 starch polysaccharide isolated from, **VII**, 296
 stomata on, **I**, 237
 structure and photosynthesis, **VII**, 568
 transpiration, **I**, 57, 237; **VI**, 674
 Apple (*continued*)—
 lenticels—
 Penicillium infection, **VI**, 745
 pome, **VI**, 23
 lime requirements of, **IX**, 68
 little leaf, **VIII**, 1036; **IX**, 1214; **X**, 1355
 longevity affected by training, **II**, 337
 McIntosh—
 biennial bearing, **VI**, 574
 as filler variety, **IX**, 409
 pollination, **II**, 121, 122; **VII**, 560, 561
 rootstocks for, **VI**, 263
 maggot (*Rhagoletis pomonella*), **VIII**, (467), (1072)
 magnesium deficiency, **X**, 960, 962, 1352
 Manchurian, **III**, 284
 manuals on, **III**, 269; **VII**, 523, 1106; **IX**, 343, 345
 manuring, *see* fertilizers
 marketing—
 costs in Washington, **V**, 564
 of Nova Scotian in London, **IX**, 656
 season U.K. 1937-8, **IX**, 321
 maturity of fruit, **II**, 231; **III**, 462; **IV**, 529; **VI**, 453, 675; **VII**, 708; **X**, 914
 mealybug on (*Pseudococcus comstocki*), **X**, (1378)
 metabolism, **II**, 135; **III**, 16, 162; **IV**, 526, 528, 669; **V**, 20; **VI**, 672; **VII**, 294, 295, 332; **VIII**, 983, 984; **X**, 319, 322
 metaxenia and xenia, **II**, 222; **III**, 21; **IV**, 533; **V**, 177, 361; **VI**, 452; **VII**, 291; **VIII**, 684
 the Mexican, *see* *Casimiroa edulis*
 mildew (*Podosphaera leucotricha*), **II**, 249; **III**, 42, 193, 335; **IV**, 65; **VIII**, 746
 Mitchurin, **VIII**, 959, 961, 963; **IX**, 410
 modified leader tree, *see also* pruning, **VIII**, 403
 moisture loss related to washing, **VII**, 104
 Monostria unicostata pest, **X**, 549
 in Morocco, **X**, 44
 mosaic, **V**, 212; **VIII**, 90
 mouldy core, **VII**, 643; **IX**, 1227; **X**, 732
 mulching, **I**, 5; **VI**, 687, 694; **X**, 1325
 nematode root injury, **VII**, 345
 nicotine on, determination of, **IX**, 510, (1260)
 nitrogen—
 and carbohydrates, *see* Apple metabolism
 injections, **VII**, 294, 295
 metabolism, *see* Apple metabolism
 requirements, **IX**, 813
 Northern Spy—
 pollination, **VII**, 290
 rootstock, **III**, 291; **IV**, 32; **VI**, 660, 662; **VII**, 902; **VIII**, 1265
 Nova Scotian on London market, **IX**, 656
 nutrient deficiency, effect on photosynthesis, **VI**, 674
 nutrition, *see* fertilizers
 nutritive value, **VIII**, 900, 901
 oil coating to preserve, *see also* wax application, **IX**, 1479
 orchard sanitation, **V**, 392; **VI**, 309
 origin of cultivated, **V**, 336
 own rooted, method of getting, **VI**, 659; **VIII**, 969
 oxidase activity in store, **V**, 355
 oyster shell scale (*Lepidosaphes ulmi*), **VIII**, (467)
 ozone for stored, **IV**, 140; **VI**, 953
 packages, refrigeration of, **V**, 499

SUBJECT INDEX

- Apple (continued)—**
- packing, I, 204, 415, 417; II, 91; III, 605; IV, 482, 514, 693; V, 499; VI, 408, 409, 964, 965; VII, 236, 499, 790, 1090; VIII, 283, 1310; IX, 663; X, 727, 1241
 - Paradise, morphology of leaf and petiole, V, 173
 - paraffin injury, IV, 398
 - × pear hybrids, VII, 824
 - pectin in fruit, I, 69; V, 314, 512; VIII, 893, 910
 - Penicillium expansum*, see blue mould
 - periodicity in fruit growth affected by atmospheric conditions, VIII, 987
 - pests, VIII, 1057; X, 121
 - phosphorus determination in shoots, VII, 571
 - photosynthesis, IV, 178; V, 352; VI, 674, 760, 762; VII, 568, 569; VIII, 38; IX, 880-883; X, 667, 893
 - physiological disorders, VII, 315, 609, 617, 878; VIII, 1264; X, 954
 - physiology, III, 458, 462; V, 182
 - picking, III, 165, 462; IV, 479; IX, 1183; X, 727, 914
 - as pig feed, X, 764
 - pistol case bearer (*Coleophora malivorella*), X, 121
 - pit disease, see also bitter pit, VIII, 584
 - pit moth (*Chrysoclista luteana*), VII, 363
 - pollen—
 - germination capacity, IX, 803
 - longevity, X, 881
 - tube growth, IX, 1166
 - pollination, I, 22, 24, 27, 141, 142; II, 23, 24, 120-123, 222; III, 21, 22, 159, 463, 465; IV, 42, 43, 185, 186, 335, 341, 561; V, 17, 177-180, 361, 441; VI, 15, 267, 452, 667, 668; VII, 21, 30, 290, 291, 560-562, 839, 841; VIII, 34, 379, 681, 682, 684; IX, 55, 57, 59-61, 424, 427, 803, 1166; X, 58, 492, 495, 879-881
 - polyploidy—
 - in *Malus* sp., VII, 544
 - and vitamin C in, IV, 162
 - pomace, III, 424; IV, 143; VI, 418
 - potassium absorption by, III, 473; IV, 37; VI, 692; VII, 300, 301; IX, 442
 - preserves, V, 152
 - price—
 - correlation of quality and, IX, 1069
 - U.K. 1937-8, IX, 321
 - in Washington 1922-33, VI, 700
 - production figures, VIII, 926, 928; VII, 701
 - propagation, see also particular processes, I, 36; IV, 24; VII, 828; VIII, 382
 - pruning, I, 58; II, 132-134, 337; IV, 36, 358, 527; V, 363, 561, 562; VI, 33, 281; VII, 37, 586, 836; VIII, 47, 403, 704, 706, 707; IX, 423, 436-438, 1227; X, 67, 907, 908, 1328, 1330
 - pruning, bending a partial substitute for, VII, 37
 - pulp pectin, V, 314
 - pyramid system see intensive cultivation
 - quality of fruit, I, 2; II, 225; III, 296; V, 198, 200; IX, 1069
 - rain distribution under, VI, 686
 - recording, I, 115, 323; IV, 177; VI, 269
 - reducase in, I, 340
 - renovation of orchards, II, 335
- Apple (continued)—**
- research of Halle Institute, VIII, 677
 - respiration, see also storage, V, 25; VI, 762; VII, 354, 569; VIII, 1273, 1287; IX, 1452; X, 320
 - respiration pigments, growth substances and, IX, 14
 - Rhizopus arrhizus* causes rot in, X, 112
 - ring grafting and stock effect, VI, 259
 - ringing, I, 59, 153, 251; III, 27, 455; IV, 289; V, 355-357, 366; VIII, 39, 705; IX, 1179
 - ripening, see maturity
 - root—
 - anatomy, IX, 784; X, 61
 - cuttings, see cuttings, root
 - growth, I, 33; II, 324; III, 13, 14, 153, 450; IV, 30, 32, 36, 175-177, 325, 329, 523; V, 174-176, 345, 347, 539, 540; VI, 14, 248, 266, 446, 448-450, 660, 662, 664; VII, 289, 552, 558; VIII, 699; IX, 66, 420, 422, 423, 796-798; X, 61, 859, 874
 - injury from eelworm, VII, 345
 - proximal dominance, IX, 423
 - rot, VIII, 86; X, 541
 - rootstocks, I, 33, 35, 42, 61-63, 126-128, 132-134, 226, 230, 335; II, 15, 117, 217, 218; III, 10, 11, 198, 291, 447; IV, 30, 32, 169, 170, 176, 177, 329; V, 4, 168-170, 172-176, 233, 341-343, 590; VI, 13, 260-265, 440-443, 446-449, 491, 493, 660-663, 982; VII, 25, 523, 551-555, 830-836, 902, 1120; VIII, 75, 674, 676-678, 743, 971-976, 983, 984, 1265; IX, 45-54, 339, 415-420, 780-789, 795, 796, 1158; X, 55, 74, 449, 485-487, 770, 865, 867, 870, 1270, 1314-1318, 1554, 1574
 - rootstock—
 - breeding, VII, 830
 - carbohydrate relations in different, X, 1317
 - and hurricane, IX, 788
 - inarching, VII, 25; IX, 777, 1177
 - intermediate, see Apple, double working
 - root growth, VII, 552; IX, 796
 - root structure of, IX, 784
 - seasonal absorption in water culture, X, 74
 - seedling and size of orchard tree, VII, 833
 - winter hardiness in, VIII, 75
 - rose leaf beetle (*Nodonota puncticollis*), on, X, 1368
 - rosette, see little leaf
 - rot due to *Rhizopus arrhizus*, X, 112
 - rots of stored, IV, 292
 - russet, IV, 374; VIII, 305, 384
 - Russian varieties, VIII, 959, 961; IX, 410
 - rust, cedar (*Gymnosporangium spp.*), VII, 898; IX, 472, 1233, (1234)
 - sampling technique, V, 198; VII, 565; VIII, 709
 - sauce, IX, 1484
 - sawfly (*Hoplocampa testudinea*), II, 258; III, 191, 205, 346; IV, 228, 392, 393; V, 229; VIII, 765; IX, 494
 - scab (*Venturia inaequalis*), I, 355; II, 251, 252; III, 41-43, 191, 329, 331, 332, 492, 494, 496; IV, 65, 378, 379, 392, 560; V, 47, 48, 218, 220, 596-600; VI, 72, 73, 302-304; 483-485, 742, 743, 750; VII, 68, 69, 337-340, 647, 897; VIII, 93, 94, 440, 441, 764, 765, 1048; IX, 97, 98, 473, 489, 494, 862, 1140, 1228; X, 109, 110, 539, 731, 980-984, 1224

SUBJECT INDEX

- Apple (continued)—**
- scald, *see also* superficial and soft scald, III, 127, 264; IV, 479; IX, 307, 1055
 - scion rooting, IV, 325; VI, 446, 449; VII, 27
 - scion: stock influence, *see also* rootstocks, III, 11; IV, 30
 - Sclerotinia malo* on, IV, 561; VII, 646; IX, 477; X, 542
 - seed, III, 287; IV, 21; VI, 670
 - seed development, time of, VII, 546
 - seedlings, II, 214; III, 288; VII, 543, 826; IX, 70; X, 485
 - seedlings—
 - development affected by grafting, IX, 1155
 - diploids and triploids as rootstocks, VII, 555
 - mineral manuring of, VII, 826
 - self-rooted, VI, 659; VIII, 969
 - self-sterility in, *see also* pollination, VII, 841
 - senescence in stored, IV, 289
 - shape of tree affects yield, V, 185
 - shipping point costs, V, 564
 - shoot—
 - anatomy, X, 61
 - apical dominance, IX, 423
 - shoot anatomy, X, 61
 - shoots, apical dominance, IX, 423
 - chemical composition, VIII, 983, 984
 - length measurements, VI, 269
 - nitrogen content of, VII, 570, 571; IX, 53
 - unfrozen water in, VII, 317
 - Sieboldii group of flowering crab, IV, 17
 - silage, IX, 1083
 - size of tree, influence of, IV, 177
 - skin—
 - permeability, I, 242
 - structure, VII, 848
 - soft rot in, III, 499; X, 540
 - soft scald, V, 150; VII, 230, 621; X, 1222
 - soggy breakdown, V, 150; VIII, 277
 - soil—
 - effect on, I, 136; IV, 329
 - management, X, 1325
 - moisture, I, 238; III, 304, 452, 453; VI, 294; VII, 579-582; VIII, 693; IX, 808
 - organic matter, II, 25; VIII, 43, 692
 - surveys, V, 551
 - types, adaptation to, VII, 298
 - soils, III, 13; IV, 329; V, 8, 551; VII, 298; VIII, 43, 691-693; IX, 66
 - sooty blotch on, VII, 645; VIII, 745
 - species, American crab, III, 283
 - Sphaeropsis malorum* on, IX, 471
 - sports, *see* bud mutation
 - spot scald, III, 127; IV, 479
 - spotting in store, VIII, 1272
 - spray—
 - effects including damage, I, 156; II, 138, 247; III, 206, 336; IV, 77, 78, 233, 390, 398, 567, 568; V, 49, 581; VII, 913; VIII, 767, (1072); IX, 880-3, 886-888; X, 572, 1017
 - recommendations, VI, 317; VII, 347; VIII, 759; IX, 495; X, 1013
 - residues, II, 31, 246, 247; III, 209; IV, 78, 569; V, 227, 409, 615, 616, 618; VI, 321-326, 506; VII, 100, 102-104, 364, 672, 673; VIII, 759, 762, 767; IX, 125, 126, 501, 885, (1260); X, 573, 1018
 - summer oil, X, 999
 - tar distillates, VIII, (1072)
- Apple (continued)—**
- the Steele, III, 326
 - stem—
 - black disease (*Coniothecium chromatosporum*), X, 111
 - builders, *see* Apple, double working
 - sterility, IV, 20, 341; VIII, 379
 - stock effect in ring-grafted, VI, 259
 - stock: scion relationship, *see* rootstocks
 - storage, I, 100-102, 197, 200-202, 301, 304, 307, 407, 408; II, 199, 201, 238, 301, 413, 414; III, 126, 127, 413-415, 462, 595; IV, 288-292, 478, 479, 669-671; V, 44, 150, 301-303, 355-357, 494-497, 499, 732-734; VI, 206-210, 940-942, 946, 953; VII, 232, 485-487, 767, 1049, 1062, 1068; VIII, 276, 398, 581-584, 586, 693, 884, 890, 892, 893, 1261, 1263-1266, 1268, 1269, 1271-1274, 1286-1288, 1310; IX, 302, 305, 307-309, 436, 654, 1055-1058, 1449-1452, 1479, 1480; X, 70, 318-326, (351), 727, 728, 1221-1225, 1516
 - storage—
 - affect by other apples, VIII, 1272
 - diseases, *see also* particular diseases, IV, 292; VII, 232; VIII, 586, 1264; IX, 309, 1056, 1058; X, 324-326
 - individual variation in, VIII, 1268
 - pests, IX, 308
 - sucker (*Psyllia malai*), VIII, 724; IX, 123
 - superficial scald, IV, 290; X, 318, 1223
 - surplus, utilization of, X, 764
 - tarnished plant bug a pest of (*Lugus pratensis*), IX, (1260)
 - Tasmanian investigations, V, 44, 494, 551
 - thinning—
 - of flowers, IX, 1178
 - of fruit, II, 135, 136; III, 305, 307; IV, 355, 356; V, 355-357, 367, 368; VII, 587; VIII, 401; IX, 436
 - thrips (*Thrips imaginis*), I, 233; II, 346; V, 631; VI, 314
 - topworking, *see also* Framework of fruit trees, IV, 165; VI, 661; VII, 24; IX, 1154; X, 68, 69, (921)
 - Tortrix* larvae control on, V, 231
 - training, *see also* pruning, II, 337; V, 185; VI, 698; VIII, 403, 404, 703, 704
 - transplanting, X, 1324
 - transport overseas, VII, 229
 - tree borer—
 - flat headed (*Chrysobothris femorata*), VIII, (467); IX, (1260)
 - round headed (*Saperda candida*), X, 1367
 - trees, size differences, permanence of, IX, 1157
 - triploids—
 - egg and zygote sterility, IV, 20, 341
 - as rootstocks, VII, 555
 - ultra-violet light treatment, IV, 669
 - utilization of, in war, IX, 1484
 - variability on seedling and on clonal rootstocks, VII, 553
 - variegation, infectious, III, 326
 - varieties, III, 8; IV, 19; VI, 612; VII, 538; VIII, 359, 670, 959, 961; IX, 38, 39, 406, 410, 763; X, 46, 479
 - Virginia Crab identification, VII, 835
 - virus, in Manchukuo, X, 100

SUBJECT INDEX

Apple (continued)—

vitamins—

- A, B and C, VII, 1063
- C, I, 198; 303, 412, 413; III, 263, 416, 417; IV, 162; V, 304; VI, 271, 272, 943, 944; VII, 231, 488, 1063, 1064; VIII, 900, 1269; X, 314, 390
- volatile products affect storage, *see* emanations
- washing, effect on keeping qualities, VII, 915
- wastage in, *see* storage
- water—
 - core in, V, 44, 591; VI, 210; IX, 1213; X, 532
 - culture, VII, 566; X, 74
 - relations affected by manuring, VII, 301
 - wax applications to, VI, 955; VIII, 1261; IX, 456, 1480; X, 1219, 1516
 - wedge grafting, IV, 520
 - wine, V, 153
 - winter hardiness, *see* frost hardiness
 - Wisley trials, IV, 19; X, 46, 479
 - wood, regeneration in, VIII, 382
 - woolly aphid, *see* aphid, woolly
 - wound callusing, III, 328; IV, 376
 - wrappers for, IV, 290; VII, 1062; IX, 1055; X, 318, 1223
 - xenia, *see* metaxenia
 - X ray examination, VIII, 726; X, 732
 - yield, affected by length of trunk, V, 344; IX, 809
 - yields, V, 199; VII, 575
 - zygote sterility in, IV, 20, 341

Apricot—

- breeding, V, 9; VIII, 21
- brown spotting due to boron deficiency, IX, 1217
- Chinese, III, 443
- deficiency diseases, VIII, 1217; X, 958
- dieback, IX, 1216
- drying, I, 206; III, 608; VI, 224
- growing in France (Roussillon), X, 49
- frost damage to, VI, 738; IX, 459, 848
- frost protection, VIII, 1033
- fruit—
 - bud formation, III, 156
 - composition, VIII, 602; X, 754
 - growth, effect of temperature on, VI, 677
- Halle Institute, research at, VIII, 677
- hardiness, IX, 459
- in Holland, IX, 406
- internal breakdown, IV, 530
- in Italy, V, 6
- leaf analysis, X, 671
- leptonecrosis in, VII, 66
- little leaf, IX, 1215
- a manual on, VII, 785
- manuring, IV, 345
- in Murrumbidgee Irrigation Areas, IX, 77
- in Palestine, III, 148
- pollen longevity, X, 881
- pollination, V, 18; VI, 17
- processing, moist pack, VIII, 285
- pruning and growth, IV, 183, 541
- ringing, VII, 849
- rootgrowth, X, 490, 875
- rootstocks, IV, 168; V, 6; VII, 1120; VIII, 373, 677; X, 49, 486
- in Sahara, VIII, 522
- shot-hole disease (*Coryneum beijerinckii*), VIII, 747
- sulphuring, III, 130
- thinning, VI, 691; X, 912

Apricot (continued)—

- in U.S.S.R., VII, 539; VIII, 357
- vitamin C in, I, 206
- Aquatic plants, seed of, VII, 10
- Arachis*, *see* Groundnut
- Arboriculture, an outline, IX, 756
- Arching fruit trees, *see* Training
- Arctic, vegetables in, VIII, 1082; X, 134, (850)
- Areca*—
 - catechu*, *see* Betel nut
 - rubra*, root knot nematode on, X, 1195
- Argyresthia*—
 - conjugella*, IV, 391; VIII, 750
 - nitidella*, IX, 867
- Argyroloce urticana*, X, 990
- Arizona agric. Exp. Stat. A.R. 1936/7-1938/9, VIII, (1378); IX, 1520; X, (1589)
- Arkansas agric. Exp. Stat. A.R. for 1938/1939, X, 1553
- Armagh, Co., 37th and 38th horticultural instructors' reports, VIII, 1342; IX, 1531
- Armillaria mellea*, the honey fungus, VII, 644
- in tea, control of, X, 1176
- Aroids—
 - edible, in Malaya, X, 721
 - in U.S.S.R., VIII, 860
- Aromatic plants, VIII, 793
- plants, seed photography of, IX, 1309
- Arrachacha esculenta*, IV, 287
- Arrowroot (*Maranta arundinacea*), II, 173; IV, 268; VIII, 860
- Arsenic—
 - poisoning in vine labourers, IX, (1260)
 - in soil, toxicity of, IX, 747, (1254)
- Arsenical powder injury to bees, X, 571
- Arsenicals—sprays, damage, etc., *see* Sprays, arsenical
- Artichoke—
 - anthracnose (*Ascochyta hortorum*), VIII, 474
 - diseases, VIII, 473-475, 481
 - hearts, frozen, IX, 666
- Jerusalem—
 - alcoholic fermentation, VIII, 609
 - cultivation, VI, 778, 779; VII, 924; X, (1400), (1588)
 - effect of animal hormones on, VIII, 633
 - rest period, X, (1086)
 - soil moisture affects, X, 1099
 - tuberization regulated by covering stems, VII, 374; IX, 1123
- Artificial—
 - colouring, *see* Colouring, artificial
 - light, use and effect of, *see also* Chrysanthemum photoperiodicity, etc., I, 3, 4, 117, 326; II, 104; III, 64-67, 71; IV, 3, 316, 317, 407, 408, 417; V, 32, 67, 519; VI, 104, 816; VII, 306, 804-806, 872; VIII, 486, 1098, 1118; IX, 341, 548; X, 604, 843
 - ripening, *see* Ripening, artificial
 - silk affected by certain organic acids, VIII, 620
- Artocarpus*—
 - champeden*, X, 704
 - communis*, VI, 178; X, 705
 - integrifolia*, VI, 386; VIII, 602
 - spp., fibre plants, IX, 237
- Artonia catoxantha*, IX, 1435
- Asam gelugor (*Garcinia atroviridis*), IX, 283
- Asclepias* spp., source of rubber, V, 714; VIII, 567
- Ascochyta hortorum*, VIII, 474
- Ascorbic acid, *see* Vitamin C

SUBJECT INDEX

- Asparagus—** age affects yield, VI, 109; bean (*Vigna sesquipedalis*), VIII, 126; for canning, V, 426; cultivation, III, 178, 179; VI, 108; VII, 113; X, 423; cutting season and yield, III, 72, 73; V, 70; VI, 109; IX, 909; X, 1384; fern (*Asparagus plumosus nanus*), VII, 951; fertilizers, VIII, 472; frozen pack preserving, VIII, 1307; X, 1239; and linseed oil emulsion, IX, 512; male— and female differentiation, X, 1383; versus female plants, II, 271; III, 89; V, 643; VII, 375; and micro elements in culture solution, VIII, 649; planting depth, X, 1050; rust (*Puccinia asparagi*), IV, 245; VI, 527; VIII, 770; IX, 138; X, 1051; seedling anatomy of, VI, 337; spacing and yield, II, 271; IV, 89; V, 643; VI, 109; X, 1384; stalk growth— and composition, V, 426; X, 146; temperature affects, X, 147; storage, VII, 1086; VIII, 891, 892, 1307; IX, 323; X, 1239; vitamin content affected by cultivation, cooking and canning, V, 244; VIII, 891, 892; *Aspergillus japonicus* causes pear rot, VIII, 1054; *Aspidiotos*— *destructor*, V, 722; *perniciosus*, III, 202; V, 402; VII, 85; VIII, 724; IX, 1238; *Aspirometer*, the HCN, V, 103; Assam— Dep. Agric. A.R. 1936/7-1938/9, VIII, (1378); IX, (1544); X, 1554; report on tea culture in 1938, X, (1589); Assimilation— affected— by ringing in apple leaves, III, 455; by spraying, see Photosynthesis; by transpiration, VI, 509; determination of, VI, 618; measurement in glasshouse tomato seedlings, IX, 524; nitrogen, VI, 619; Association of Special Libraries and Information Bureaux (A.S.L.I.B.), Rep. Proc., 15th Conference, IX, 1521; *Aster*— effect of auxins on branching in, VIII, 627; effect of folliculin and light on, IX, 946; yellow virus, V, 428; VI, 129; VIII, 1058; *Asterolectanium* of coffee, III, 240; *Athyrium esculentum*, VII, 452; *Atis*, see *Annona squamosa*; *Atriplex hortensis*, X, 594; *Atta*— *cephalotes*, a fungus growing ant, VII, 1005; *texana*, a leaf cutting ant, IX, 590; *Attalea*— *funifera*, IX, 1036; *speciosa*, IX, 633; *Aurantioideae*, floral anatomy, IX, (587); Australia, monsoonal possibilities, X, 228; Australian— apple exports, II, 200; VIII, 409; IX, 662; banana industry, IX, 295; Australian (continued)— foodstuff refrigeration, II, 89; fruit shipments, II, 199; grape export industry, IX, 83; nut, see Macadamia; Austria, fruit growing in, IX, 30; *Autoserica castanea*, VII, 133, 134; Autumnal migration of nutrients in apple tree, III, 16; Auvergne— fruit growing in, IX, 760; vine growing in, X, (950); Auxin, see also Growth substances, Hormones, etc.; Auxin— absorption and translocation, VIII, 617; in bean seedling affected by naphthalene acetic acid, X, 1282; branching affected by, VIII, 627; comparison of different chemical, IX, 1111; dual effect on root formation, IX, 1106; and ericaceous plant cuttings, VIII, 934; X, 1107; in fruits, its distribution, IX, 1110; inhibition due to, VII, 819; VIII, 6; IX, 359, 1099, 1114-1117; X, (460); light stability in *Avena coleoptiles*, X, 818; in marine plants, X, 456, 1277; micro-organisms produce, X, 8; movement in plants, IX, 1103, 1104; and parthenocarpy, IX, 1332; plant, and ethylene, similarity of effect on growth, V, 520; production by roots *in vitro*, X, 814; rôle in leaf development of *Solidago* spp., VII, 259; rôle in origin of different plant organs, IX, 730; rôle in propagation, X, 3; seed treatment after effects, IX, (369), X, (1283); in seedlings, increased by naphthalene acetic acid, X, 1282; in seedlings, distribution, X, (460); specific factors affecting growth other than, VIII, 319; and sugar for growth, interdependence of, VIII, 616; test of high sensitivity, X, (821); test technique, VIII, 618; transport and electrical polarity, IX, (369); *Avena* test, see Growth substances, *Avena*; *Averrhoa*— *bilimbi*, VII, 467; *carambola*, VII, 467; *Avocado*— asphyxiation, II, 171; Ass., California, Yearbook for 1931 and for 1939, II, 56; X, 1558; bench grafting, X, 1153; bibliography, X, 413; biennial bearing in, V, 110; VI, 873, 874; VIII, 1168; biochemistry of, VII, 170; breeding, VIII, (1168); in California, V, 107; VIII, 1168; X, 1558; chlorine causing ring neck in, VI, 561; composition— of fruit, III, 575; VIII, 201; of seed, II, 170; of tree, IX, 992; cuttings, VIII, 1169; decline, X, 1154.

SUBJECT INDEX

Avocado (*continued*)—

differentiation between Mexican and Guatemalan, IX, 599
 diseases, III, 119; V, 277, 458, 459; VI, 152, 876, 878; IX, 1375; X, 1155
Dothiorella rot of, VI, 152, 878
 fertilizers, VI, 875; VIII, 1229; IX, 602
 floral anatomy, IX, 1373
 flower mechanism, *see* pollination
 frost damage, VIII, 1171; IX, 603
 fruit fall, normal, in, IX, 1430
 Fuerte, VI, 870, 873
 fumigation, VI, 879; VIII, 1172; X, 1156
 girdling, VIII, 1170
 growing—
 in California, I, 194; V, 107
 centres of, VIII, 200
 in Florida, V, 108
 in Greece, V, 456
 improvement in, IX, 588
 in Italy, VI, 151
 in Malaya, IV, 264
 in Queensland, VI, 150
 in Sahara, VIII, 522
 in S. Africa, I, 193, 379; II, 57; X, 1152
 in U.S.S.R., VIII, 1165
 in West Indies, VIII, 1166
 growth—
 rate in Fuerte, VI, 870
 and water relations, VI, 560; VII, 450
 marcottage, V, 111
 marketability of, VI, 877
 origin of cultivated, VI, 869 ; IX, 1373
 pests, III, 120; IV, 620; V, 460, 722; VI, 153; X, 1156, 1263
 physiological disorders, VI, 560, 561
 physiology and biochemistry, VII, 170
 pollination, II, 58; III, 117, 574; VII, 171; IX, 601
 propagation, II, 292; III, 118; IV, 265, 447; V, 109, 111; VIII, 1168, 1169; IX, 1374; X, 1153
 pruning, VI, 871
 ring neck of, VI, 561
 rootstocks, V, 109; VIII, 1168
 salt accumulation, VI, 872
 scab (*Sphaceloma perseae*), V, 277; X, 1155
 scales, IV, 620; V, 460, 722; X, 1156
 seed composition, II, 170
 sex, *see* pollination
 size of tree correlated with size of seed, IX, 600
 soil medium for seedling, X, 1204
 storage, IV, 138; V, 308; VI, 219; IX, 658
 sun blotch, III, 119; VI, 876; IX, 1375
 temperature affects biennial bearing in, VI, 874
 tip burn, VI, 872
 tongue inarching, IX, 1374
 top grafting, III, 118; IV, 265
 varieties, I, 295; III, 116; VIII, 1167; IX, 599
 water relations and, VI, 560; VII, 450
Azadirachta indica for fencing, VIII, 876
Azalea—
 indica fertilizers and manures, VIII, 513
 growth substances for, VIII, 934; X, 1107
Azaroles (*Crataegus azarolus*), V, 164
Azienda Agraria Ravennate, VII, 253
Azotobacter chroococcum, known to produce growth substances, IX, 19, 20
Azotogene, action of, IX, 20

Baccharis (*Atta cephalotes*), VII, 1005

Bacillus amylovorus, *see* Fireblight

Bacteria produce growth stimulants, *see* Growth substances, bacterial

Bacterial—

 blight in vines, IX, 1224

canker—

 of stone fruit, *see* Stone fruits, bacterial canker

 of tomato (*Aplanobacter michiganense*), VIII, 489; IX, 154; X, 605

disease of tung oil tree, II, 396

diseases—

 of gladiolus, VII, 956

 in Tasmania, III, 38

pest control, X, 565

plant disease, a treatise in Russian, VI, 976

rot of cherry fruits, IX, 860

wilt of beans, *see* Bean, halo blight,

Bactericide, Zbarsky's, VIII, 1262; X, 316

Bactericides and fruit set, VIII, 760

Bacteriological method of soil deficiency analysis, II, 213

Bacterioses, work of Institute of Plant Protection, Leningrad, on, X, (1587)

Bacteriosis—

 of cherry, *see* Cherry bacteriosis

 of walnut, *see* Walnut bacteriosis

Bacterium—

angulatum on tobacco, VIII, 772, 773

campestre on stocks, X, 175

flaccifaciens, IX, 533

juglandis, *see* Walnut bacteriosis

maublancii of bananas, VII, 225

medicaginis var. *phaseolicola*, *see* Beans, halo blight

michiganense, in tomato, *see* Bacterial canker of tomato

nectarophilum, in pear, VI, 482

pruni, V, 46

savastanoi, on olive, V, 399; IX, 1370

solanacearum, IX, 436

syringae, in lemon, X, 640

tabacum, VIII, 772

tumefaciens, *see* Crown Gall

Bagging—

 the Japanese pear, X, 60, 882

 versus pollination in bud, X, 878

Bahamas, agriculture in, X, 672

Bajri seeds and moisture exchange, VIII, 642

Balehonnur Coffee Exp. Stat. Rep. Work 1930 and 1931, III, 239

Bamboos, II, 64

Banana—

 anthracnose, *see* black end

 Australian investigation, V, 725

 bacterial diseases, VII, 225

 bacterial wilt or moko (*Phytoponas solanacearum*), IX, 1044

 bagging bunches, VI, 931

 beetle borer, V, 492; IX, 647

 black end (*Gloeosporium musae*), V, 729; X, 1210, 1519

 breeding, II, 85; III, 254; IV, 128, 664; VI, 593

 bunch covers, X, 717

 bunchy top virus, IV, 286; VI, 397; X, 716

 cases, packing, IV, 483

 the Cavendish, III, 576; V, 138; VI, 189

Cercospora leaf spot, *see also* leaf diseases, IV, 667; VI, 193; VII, 763, 1045-1048; VIII, 263, 1250; IX, 297, 1044, 1062; X, 301

SUBJECT INDEX

- Banana (*continued*)—
Chloridium musae on, VII, 226
 coffee, V, 317
 composition of fruit, III, 122; VIII, 602; IX, 648
 corm rot, VI, 192
 cultivation—
 in Australia, *see also* Banana, Australian investigations, IX, 295
 in Brazil, III, 411, 579
 in British Guiana, IV, 663
 in Cameroons, VII, 762; X, 1505
 in Dominican Republic, varieties used, VIII, 576
 in French Guiana, IX, 1043
 in Italian Somaliland, III, 577; X, 1506
 in Jamaica, VI, 190; IX, 646
 in Malaya, V, 294
 in Martinique, II, 196
 in N.S. Wales, VI, 396; X, 299
 in Queensland, IX, 645
 in St. Lucia, V, 727
 cultural practice, V, 728; VIII, 1248
 dietetics of, X, 1507
 diseases, III, 579, 580, 582; IV, 129-131, 666; V, 297; VII, 1045, 1048; IX, 296; X, 1519
Dothiorella rot, IX, 1032
 dwarf, mutant types of, III, 121
 eelworm rot of Chinese, IX, 1045
 eradication methods, VI, 399
 ethylene evolution, VIII, 898; X, 370
 figs, II, 299; V, 317
 finger dropping in, V, 138
 fruit—
 metabolism, X, 367-369
 spots, IV, 129
Fusarium spp. on, VII, 225
 genetics and cytology, III, 254; V, 726
 the Giuba, III, 577; X, 1506
 the Gros Michel, II, 197; IV, 665; V, 727; X, 369
 the Highgate, VII, 224
 the Lacatan, III, 576
 the Lady Finger, packing, X, 743
 leaf—
 fall, II, 407
 disease in Surinam, IV, 668
 diseases, *see also* Banana *Cercospora*, III, 256; IV, 131; VII, 226, 1045; IX, 1044
 manual on, VI, 978
 manuring, II, 408; V, 295; VI, 191, 932; VIII, 1229, 1249; X, 1209
 ozone and storage, VI, 953
 packing, IV, 483; V, 151; VI, 221, 967; VII, 238; X, 743
 Panama disease, I, 196, 404; III, 257, 258, 412; IV, 128, 666; VII, 224
 picking, endless wire system, VI, 398
 the Pisang Embun, II, 197
 pitting disease, IV, 129
 “plant failure” in Haiti, IX, 296
 pollens, II, 87
 production figures, VIII, 926; IX, 701
 products, II, 299; V, 317
 propagation, I, 403; II, 86; IX, 1437; X, 299
 reactions to pressure, gravity and darkness, I, 296
 respiration in, VII, 493; IX, 1476; X, 1236
 ripening, *see also* storage, I, 297, 313; II, 304; III, 578; IV, 130; V, 138; VII, 493, 1083; VIII, 898
 root—
 distribution, X, 300
 weevil (*Cosmopolites sordidus*), V, 492; IX, 647
 rust thrips (*Scirtothrips signipennis*), IV, 285; VIII, 1251; IX, 298; X, 717
 Sigatoka leaf disease, *see* Banana, *Cercospora*
 sports of, IV, 665
 spotting by *Frankliniella insularis*, VIII, 264
 spread of, III, 255
 squirter disease (*Nigrospora* spp.), III, 581; VIII, 577
 stem end rot (*Thielaviopsis paradoxa*), VII, 764
 stomata spots on ripening, IV, 130
 storage, I, 313, 410, 411; II, 304; III, 604; V, 138; VI, 219, 953, 954; VII, 493; VIII, 888, 892; IX, 1062, 1476, 1477; X, 367-370, 1236-1238, 1519
 storm damage repair, X, 715
 sucker selection, IX, 1437
 sugar changes during ripening, IX, 648
 supplemental plants, V, 296
Thielaviopsis paradoxa on, VII, 764
 thrips, IV, 285; VIII, 264, 1251; IX, 298; X, 717
 trash, composition, VI, 933
 varieties, I, 195; II, 196, 197; III, 121, 254, 411, 576, 577; IV, 475, 665; V, 727; VI, 189; VIII, 576; IX, 646
 vitamin C content, VII, 1083
 wastage, I, 410
 wild and cultivated forms, IV, 475
“Bananier, le,” VI, 978
 Banda Islands, nutmeg in, II, 178
 Banding—
 against insects, V, 230, 620; VI, 498, 759; VII, 654, 991; VIII, 755; IX, 106, 480
 materials, impregnation of, V, 230; VI, 498; VIII, 755
 Bangal seed garden, III, 392
 Baobab (*Adansonia digitata*), II, 378; X, 247
 Barium—
 carbonate as rat poison, VI, 393
 chlorate as herbicide, VIII, 461
 Bark—
 cracking, a winter injury, VII, 875
 ringing, *see* Ringing
Barringtonia racemosa, insecticidal properties of, V, 114
 Bars of Sanio, VI, 479; VII, 891
 Basic slag, III, 63; VII, 311
 Basket willow cultivation, III, 279; V, 328; VI, 8, 246
Bassus diversus, parasite of oriental fruit moth, X, 1002
 Basutoland Dep. Agric. A.R. 1937/8-1938/9, IX, (1544); X, 1555
 Batum botanical gardens, oranges at, X, 195
 Bayoud disease of dates, IV, 126, 474
 Bean—
 bacterial disease, *see also* halo blight, VI, 802; VII, 128; IX, 533 and boron, VIII, 925
 breeding, VIII, 145, 469
 broad—
 acceleration of flowering in, VII, 942
 leaf injection, X, 1391
 canning snap, VII, 505
 carbohydrate and fluorescein movement in, VIII, 644

SUBJECT INDEX

Bean (*continued*)—

chocolate spot disease (*Botrytis cinerea*), VII, 118; IX, 923; X, 164, (165)
cultivation, VI, 348; VIII, 785
daylight reduction affects growth, X, 1077
diseases—
of dwarf and runner, VIII, 770
in glasshouse, VIII, 1109
of kidney, V, 251
of runner, VIII, 770
of snap, IX, 535
dwarf, disease resistance, VI, 802
foot rot (*Fusarium solani*), VIII, 1109
La grasse disease, *see* halo blight
and growth substances, VIII, 331-334, 633; IX, 363
halo blight (*B. medicaginis phaseolicola*), VI, 802; VII, 128; VIII, 148, 492, 770, 1109; IX, 534
leaf hopper (*Empoasca fabae*), IX, (173)
the Long (*Vigna sinensis*), X, 723
morphology, VI, 801
in N.S. Wales, garden varieties, IX, 1281
pests of stored, VIII, 899
potash for dwarf, IX, 1280
rust (*Uromyces fabae*), IX, 924; X, 164
storage, VII, 483; VIII, 892, 899
thrips (*Hercinothrips fasciatus*), VIII, 491
weevil (*Acanthoscelides obsoletus*), IX, 104

Beauveria bassiana, fungus attacking coconut leaf miner, III, 114

Bedfordshire, market gardening in, IX, (507)

Beekeeping, VIII, 923; IX, 806; X, 59, (1335)

Beekeeping in tropics, IX, 1053

Bees—

acarine disease, III, 26
the *Apoidae* in Nova Scotia, IV, 42
arsenical injury to, VI, 666; X, 571
biology in Palestine, VII, 844
on coffee estates, X, 691
non-injurious to fruit, X, 547
and pollination, I, 144; II, 118, 220; IV, 42, 46, 535; VI, 267; IX, 802
and spraying, V, 181; VI, 666; VII, 94; IX, 127

Beet—

diseases, VIII, 724
leaf hopper, IX, (173)
pests, VIII, 724
sugar, *see* Sugar beet

Beetroot—

canning disorders, VII, 1104
chlorosis, IX, 900
Dutch work in 1938 on, X, (1086)
fertilizers, VIII, 122, 470
germination, IX, 509
heart-rot and boron, VIII, 396, 654; IX, 511
storage, VIII, 588
vernulation, X, 461

Beetle—

asiatic garden (*Autoserica castanea*), VII, 133, 134
black, of coconuts, VII, 222
Capnodis sp., VI, 495
carabid, II, 257
flea, control of, VI, 525
Japanese (*Popillia japonica*), IV, 582-585; V, 238, 613; VI, 98, 758; VII, 81, 82
raspberry, *see* Raspberry beetle
strawberry, X, 558

Begonia—

bacterial disease of (*Phytoponas begoniae*), IX, 550
bud development of tubers in, IX, 953
leaf blight nematode (*Aphelenchus olesistus*), VIII, 1122; IX, 456
plant hormones and, IX, 729-731
propagation by leaf cuttings, VII, 137

Behaviour in plants, X, 22

Belgian Congo—

agriculture in, VIII, 543
rubber in, IX, 260; X, 1480

Belgium—

chicory growing in, IX, 150
grapes under glass in, IX, 1197

Belvitan, proprietary growth substance, IX, 735
Bemisia nigrovenusta, vector of cassava mosaic, VI, 895

Bending apple trees instead of pruning, VII, 37

Bentonite as spreader, VIII, 762

Benzene vapour control of tobacco downy mildew, IX, 539

Benzol vapour control of tobacco downy mildew, IX, 538

Berlin Dahlem,—

garden and nursery section, V, 326
Horticultural Research Institute A.R. 1930 and 1933, II, 98; IV, 497

Bermuda Dep. Agric. A.R. 1937-1938, VIII, 1344; IX, 1522

Berri—

fig steaming expts. at, IV, 299

orange growing at, V, 87

vine trials at, V, 34

Berries, organic acids from, VIII, 292

Berry fruits—

in California, IV, 543

frozen pack preservation, I, 310; II, 303; IV, 137; X, 1512

in Siberia, VIII, 410, 411

Bertholletia excelsa, VII, 468; X, 294
Besoekisch Proefst. Rubb. Koff. Tabak, A.R. 1936/7-1938/9, IX, 715; X, 1570

Betel—

nut (*Areca catechu*), VII, 460, 751; VIII, 565, 899

vine—

in Ceylon (*Piper betel*), VIII, 237

foot-rot diseases of, V, 143

Beverage plants, VII, 1107

Bibliographies at Science Library, S. Kensington, Lond., X, 429

Bibliography of—

agricultural economics, IX, 340

avocado, X, 413

bacterial plant disease, VI, 976

boron, X, 35

bud mutation, IX, 375

day length and artificial illumination, V, 519

environment and disease, VI, 293

food investigation, X, 1271

mycology and phytopathology, VIII, 85

polarographic methods, IX, (405)

soil and fertilizer, 1931-1934, V, 746

tropical agriculture, III, 272; IV, 503; IX, 609

virus diseases, IV, 494; V, 388; VI, 66, 67;

X, (1378)

water divining, IX, 27

woolly aphis, VI, 982

SUBJECT INDEX

- Biennial bearing—
 in apples, *see* Apple, biennial bearing
 in avocado, *see* Avocado, biennial bearing
 cultivation and pruning affect, X, 886
 and growth phenomena, II, 326
 in olive, VIII, 196
 in oranges, V, 437; VIII, 173, 174
- Big bud, *see* Black currant big bud mite
- Bigaradia orange, IV, 609
- Bihar Dep. Agric. A.R. 1936/7, VIII, 1345
- Bilberry—
 acid tolerance in, X, 511
 breeding, II, 34; VIII, 57
 chlorosis in, VII, 888
 cultivation, I, 166; II, 34; III, 167; V, 31, 202
 cuttings, VI, 712; IX, 1188; X, 449, 1341
 frost injury to, IX, 1212
 fruit bud formation, VI, 704
 galls, *Phomopsis* and, VIII, 99
 in Holland, IX, 406
 inheritance in, X, (950)
 maggot (blueberry) (*Rhagoletis pomonella*), VIII, (467), IX, 1244, X, 1369
 nutrition, VI, 458; X, (950)
 pollination, VIII, 713; X, 512, (950)
 pruning, X, (950)
 in Siberia, VIII, 410
 varieties, II, 34; III, 311; VIII, 712
- Biochemistry—
 of apple senescence, IV, 289
 of leguminous and forage crops, X, (1587)
 of pears, IV, 34
 of photoperiodism, VIII, 652
 of pineapple, IV, 132
 of plums, VIII, 386
 of subtropical fruits, VIII, 197
- Bioelectric currents and bud inhibition, VIII, 348
- Biological control, II, 253, 254; III, 44, 114, 348; IV, 74; V, 234, 402, 404, 608, 609, 633; VII, 365, 473, 1004; VIII, 110-112, 146, 206, 459, 553, 1084; IX, 488, 1084, 1302, 1381; X, 565, 647, 1373
- Biological control—
 of bacteria by non-virulent cultures unsuccessful, X, 107
 bacterial, of pests, X, 565
of Clidemia hirta, VII, 1004
 of coconut leaf miner, III, 114; VII, 473
 of coconut rhinoceros beetle by fungus, VIII, 553
 of fruit fly, VIII, 206; X, 1373
 fungal—
of coconut leaf miner, III, 114
of scale, VI, 862; X, 647
 of fungus—
by fungus, IX, 1302
by gall midges, VI, 496
of nematode by fungus, IX, 1381
 in New Zealand, VII, 365
of red spider mite, VIII, 1084
- Bios group of growth substances, X, 1275
- Bird scaring device, VII, 678
- Bitter pit, IV, 216, 696; V, 44, 590; VII, 610, 614, 615; VIII, 400, 584, 726, 736; IX, 307; X, 97, 956, 957
- Bixa orellana*, cultivation and vegetative propagation, II, 294; VIII, 220
- Blackberry—
 beetle on, III, 207
the Brainerd, II, 147; X, (950)
 breeding, III, 477; IV, 49; VIII, 52
- Blackberry (*continued*)—
 canning, IX, 1492
 cultivation, II, 350; V, 565; VI, 707
 Evergreen, sport of, II, 33
 fertilizers, IX, 69
 fruit aphides, VIII, 106
 juice, VIII, 904
 and other fruits, manual on, VI, 235
 pests, IX, 868
 propagation, VI, 709; IX, 440, 830, 831
 pseudogamy in, III, 477
 rosette (*Cercospora rubi*), VIII, 96
 absence of tartaric acid in, X, 393
 training, IV, 360; IX, 440
 trials, IX, 440, 830
 varieties, I, 357; II, 147; III, 166; VI, 42, 44; VIII, 712; IX, 406
 as virus vector, VII, 88
 as weed, I, 357; III, 211; VII, 87, 88; X, 1377
- Black cloth, effect of capping with, IX, 1122
- Black currants—
 big bud, *see also* reversion, VII, 634; IX, 484
 breeding, VIII, 996
 capsids, II, 256
 composition, X, 754
 cultivation, X, 926
 field experiments, VIII, 54
x gooseberry hybrids, X, 927
 juice, VIII, 904; X, 1249
 leaf scorch, III, 46, 47
 magnesium deficiency in, X, 1352
 manuring, VIII, 997; IX, 829
 mite (*Eriophyes ribis*), *see also* big bud and reversion, VI, 99; IX, 484
 picking costs, V, 374
 propagation from cuttings, X, 925
 pruning, VII, 590
 reversion, *see also* big bud and mite, VI, 477; VII, 633, 634
 rogues, I, 163
 roots, III, 154
"running off," VII, 890
Septoria leaf spot, IX, 855, 865
 spraying, VIII, 764
 unfruitfulness in, VII, 890; X, 1340
 variety trials, VIII, 54
- Black knot of plums and cherries (*Dibotryon morbosum*), III, 334; V, 602, 603
- Black spot disease of Japanese pear (*Alternaria kikuchiana*), IV, 64
- Blackthorn—
x myrobalan hybrids, VIII, 25
x Prunus domestica hybrids, X, 1309
- Blackwood, Govt. Exp. Orchards, V, 4
- Blangsted, apple varieties and rootstocks, IX, 780
- Blangstedgaard fruit tree manorial trials at, IX, 69
- Blastophaga psenes* of fig, VI, 22
- Bleaching peanuts, II, 44
- Blossom wilt, *see also* *Sclerotinia*, II, 344; IX, 477
- Blossoming—
 control of irregular, I, 342; IV, 531
 phloem development and, VII, 136
- Blueberry, *see* Bilberry
- Boehmeria nivea*, *see* Ramie
- Bogland, coffee growing, II, 387
- Boga medeola* as cover crop for tea, X, 435
- Book Reviews—
 Adriance, G. W., and Brison, F. R. Propagation of horticultural plants. London, 1939, X, 1265
- Anagnostopoulos, P. Th. Olive growing in Greece (Greek). Athens, 1931, III, 133

SUBJECT INDEX

Book Reviews (*continued*)—

- Ashby, H., Ashby, E., Richter, H., and Bärner, J. German English botanical terminology. London, 1938, IX, 682
- Astor, Viscount, and Rowntree, B. S. (Editors), Small holdings studies. London, 1938, IX, 342
- Atanasoff, D. Virus diseases of plants. A bibliography. Sofia, 1934, IV, 494
- Bagenal, N. B. Fruit growing. Modern cultural methods. London, 1939, IX, 1511
- Bally, W. Le café en 1931 et 1932: Questions économiques et techniques. Rome, 1933, IV, 311
- Banga, O. De bewaareigenschappen van tuinbouwproducten. Speciaal in verband met bewaring in gekoelde ruimten. Wageningen, 1933, III, 593
- Barker, A. S. The use of fertilizers. London, 1935, V, 322
- Bedevian, A. K. Illustrated polyglottic dictionary of plant names. Cairo, 1936, VI, 974
- Bender, H. B. The fungi imperfecti, order Sphaeropsidales. North Woodbury, Connecticut, 1934, IV, 501
- Bezemer, T. J. Dictionary of terms, relating to agriculture, horticulture, forestry, cattle breeding, dairy industry and apiculture in English, French, German, and Dutch. London, 1934, IV, 688
- Bois, D. Les plantes alimentaires. IV. Les plantes à boissons. Paris, 1937, VII, 1107
- Bracci, F. L'olivo e l'olio. Rome, 1934, IV, 690
- British Mycological Society. List of common names of British plant diseases. London, 1935, V, 516
- Brooklyn Botanic Garden. Botanic gardens of the world. Materials for a history. Brooklyn, New York, 1937, VII, 1110
- Chevalier, A. Les cafésiers du globe. Fasc. 1. Généralités sur les cafésiers. Paris, 1929, I, 91
- Clark Powell, H. The culture of the orange and allied fruits. Pretoria, 1930, I, 217
- Chugunin, Ya. V., and Yukanova, O. N. Phenological calendar for protection of orchards from pests and diseases (Russian). Moscow, 1938, IX, 683
- Confederazione Fascista dei Lavoratori dell'Agricoltura. Italia rurale. Rome, 1937, VIII, 919
- Confederazione Nazionale Fascista Agricoltori. Le uve da tavola. Milan, 1930, I, 425
- Crane, M. B., and Lawrence, W. J. C. The genetics of garden plants. London, 1934, V, 158
- Darlington, C. D. Chromosomes and plant breeding. London, 1932, II, 305
- Dalziel, J. M. The useful plants of west tropical Africa. London, 1937, VII, 1109
- Dirsh, V. M. Vine pests and their control. (Russian.) Moscow, 1938, IX, 684
- Eckstein, O., Bruno, A., and Turrentine, J. W. Potash deficiency symptoms. 2nd edit. (German, French and English.) Berlin, 1937, VIII, 302
- Elliott, E. C., and Whitehead, F. J. Tea planting in Ceylon. 2nd edit. Colombo, 1931, I, 423

Book Reviews (*continued*)—

- Ellis, C., and Swaney, M. W. Soilless growth of plants. New York, 1938, VIII, 1334
- Ewert, —. Die Honigbiene als wichtigste gehilfin im Frucht und Samenbau. Leipzig, IX, 1088
- Fisher, R. A., and Yates, F. Statistical tables for biological, agricultural and medical research. London, 1938, VIII, 1339
- Floor, J., and Zweede, A. K. Handleiding voor de determinatie van appelerdenstammen. Wageningen, 1937, VII, 523
- Forschungsdienst. Forschung für Volk und Nahrungsreichheit. Neudamm and Berlin, 1938, IX, 338
- Gardner, V. R. The cherry and its culture. London and New York, 1930, I, 216
- Gardner, V. R., Bradford, F. C., and Hooker, H. D., Jr. The fundamentals of fruit production. 2nd edit. London, 1939, IX, 1510
- Garner, H. V., Hoare, A. H., Long, H. C., Stapledon, R. G., Rayns, F., and Wallace, T. Profit from fertilizers. London, 1936, VIII, 917
- Gericke, W. F. The complete guide to soilless gardening. London, 1940, X, 1544
- Goetz, O. Verhalten von Apfel und Birnen-edelsorten beim Umpfropfen zueinander. 2nd edit. Berlin, 1937, X, 770
- Gresham Publishing Company. Modern garden craft. 3 vols. London, 1936, VII, 518
- Grist, D. H. An outline of Malayan agriculture. Kuala Lumpur, 1936, VI, 975
- Hall, Sir A. D. (Essays presented to). Agriculture in the twentieth century. Oxford, 1939, X, 1264
- Hall, A. D., and Crane, M. B. The apple. London, 1933, III, 269
- Harler, C. R. The culture and marketing of tea. London, 1933, IV, 306
- Henderson, I. F., Henderson, W. D., and Kenneth, J. H. A dictionary of scientific terms. 3rd edit. Edinburgh and London, 1939, X, 408
- Hoare, A. H. Commercial apple growing. London, 1937, VII, 1106
- Hoare, A. H. Vegetable crops for market. London, 1937, VII, 522
- Holland, J. H. Overseas plant products. London, VII, 1108
- Howard, A. An agricultural testament. London, 1940, X, 1259
- Howard, A., and Wad, Y. D. The waste products of agriculture. London, 1931, I, 422
- Humphrey John (J. H. Denham). The skeptical gardener. London, 1940, X, 768
- Hunter, H. Encyclopaedia of scientific agriculture. 2 vols. London, 1931, II, 209
- Imms, A. D. Recent advances in entomology. 2nd edit. London, 1937, IX, 1512
- Imperial Bureau of Soil Science. Bibliography of soil science, fertilizers and general agronomy, 1931-4. Harpenden, 1935, V, 746
- Imperial Institute (Holman, H. J., editor). A survey of insecticide materials of vegetable origin. London, 1940, X, 1267

SUBJECT INDEX

Book Reviews (continued)—

- International Institute of Agriculture. Bibliography of tropical agriculture, 1931. Rome, 1932, III, 272
- International Institute of Agriculture. Bibliography of tropical agriculture, 1933. Rome, 1934, IV, 503
- International Institute of Agriculture. Les Institutions d'expérimentation agricole dans les pays tempérés. Rome, 1933, III, 613
- International Institute of Agriculture. International directory of agricultural libraries. Rome, 1939, IX, 1097
- International Institute of Agriculture. Stations expérimentales et autres institutions officielles, ou privées s'occupant du développement et de l'amélioration de l'agriculture dans les pays chauds. Rome, 1931, III, 135
- International Institute of Agriculture. The tung oil trees (*Aleurites*) and the tung oil industry throughout the world. Rome, 1938, X, 411
- International Institute of Agriculture. Use of leguminous plants in tropical countries as green manure, as cover and as shade. Rome, 1936, VII, 521
- International Institute of Intellectual Co-operation. International code of abbreviations for titles of periodicals, and Supplement. Paris, 1930 and 1932, IX, 685
- Irvine, F. R. A text book of West African agriculture, soils and crops. London, 1934, IV, 305
- Italia Agricola. Uve da tavola. Rome, 1934, IV, 691
- Jacks, G. V., and Whyte, R. O. The rape of the earth. London, 1939, X, 1543
- Jacob, A., and Coyle, V. The use of fertilizers in tropical and sub-tropical agriculture. London, 1931, I, 424
- Jaczewski, A. A. Bacterial plant disease (Russian). Moscow and Leningrad, 1935, VI, 976
- Kains, M. G., and McQuesten, L. M. Propagation of plants. New York, 1938, X, 409
- Keeble, F. Fertilizers and food production on arable and grassland. London, 1932, II, 210
- Keeble, F., and Rawes, A. N. Hardy fruit growing. London, 1936, VI, 977
- Kemmer, E., and Schulz, F. Grundlagen der Bodenpflege im Obstbau. Berlin, 1938, VIII, 1335
- Kenya, Department of Agriculture. (McDonald, J. A., editor.) Coffee in Kenya. Nairobi, 1937, VIII, 1340
- Kenya Horticultural Society (Jex-Blake, A. J., editor). Gardening in East Africa. London, 1935, V, 745
- Kervégant, D. Le bananier et son exploitation. Paris, 1935, VI, 978
- Kervégant, D. Les plantes utiles et ornementales de la Martinique. II. Plantes fruitières. Martinique, 1937, VIII, 1336
- Kobel, F. Lehrbuch des Obstbaus auf physiologischer Grundlage. Berlin, 1931, I, 317
- Kolisko, L. Moon and plant growth. Bray-on-Thames, 1936, VI, 979

Book Reviews (continued)—

- Kostina, K. F. The apricot (Russian with English summary). Leningrad, 1936 and 1937, VII, 785
- Krasinsky, N. P. Methods of forcing flowering plants. (Russian.) Moscow, 1937, IX, 341
- Krjukov, F. A. The plum. (Russian.) Leningrad, 1931, III, 426
- Laurie, A., and Poesch, G. H. Commercial flower forcing. 2nd edit. Blakiston, Philadelphia, 1939, X, 1260
- Lawrence, W. J. C. Practical plant breeding. London, 1937, VII, 1105
- Lawrence, W. J. C., and Newell, J. Seed and potting composts. London, 1939, IX, 1086
- Lenin Academy of Agricultural Sciences. Flora of cultivated plants. XVI. Small fruits. (Russian.) Leningrad, 1936, IX, 1513
- Lenin Academy of Agricultural Sciences. Flora of cultivated plants. XVII. Nuts. (Russian.) Leningrad, 1936, IX, 1514
- Long, H. C. Suppression of weeds by fertilizers and chemicals. Hook, Surbiton, Surrey, IV, 303
- Luckan, J. Erdbeerbuch. Wiesbaden, 1937, VII, 520
- Macmillan, H. F. Tropical gardening and planting. 4th edit. London, 1935, VI, 237
- Markham, E. Raspberries and kindred fruits. London, 1936, VI, 235
- Martin, H. The scientific principles of plant protection, with special reference to chemical control. 2nd edit. London, 1936, VI, 613
- Martin, H. The scientific principles of plant protection with special reference to chemical control. 3rd edit. London, 1940, X, 1261
- Massee, A. M. The pests of fruits and hops. London, 1937, VII, 519
- Maurer, E. Die Unterlagen der Obstgehölze. Berlin, 1939, IX, 339
- McDonald, J. A., and others. Studies in West Indian soils. VII. The cacao soils of Trinidad. A. Montserrat district. Trinidad, 1933, III, 557
- Mercer, S. P. Farm and garden seeds. London, 1938, VIII, 916
- Mitchurin, I. V. Collected works. I. Principles and methods. (Russian.) Moscow, 1939, X, 1268
- Mitchurin, I. V. Mitchurin's selected works. (Russian.) Voronezh, 1939, IX, 1087
- Molisch, H. Der Einfluss einer Pflanze auf die andere—Allelopathie. Jena, 1937, VIII, 920
- Molisch, H. (Translator, Fulling, E. H.). The longevity of plants. New York, 1938, X, 1262
- Morton, J. W. Fruit and vegetable growing for canning. London, 1933, III, 611
- National Research Council of Canada. Effect of sulphur dioxide on vegetation. Ottawa, 1939, X, 1266
- Natividade, J. V. A improdutividade em pomologia. Alcobaça, Portugal, 1932, III, 271
- Nattrass, R. M. A first list of Cyprus fungi. Nicosia, 1937, VIII, 921
- Nicol, H. Plant growth substances. London, 1938, VIII, 1337

SUBJECT INDEX

Book Reviews (*continued*)—

- Nicol, H. Plant growth substances. 2nd edit. London, 1940, X, 1545
 Nikita State Botanical Gardens, Yalta. Trees and Shrubs. I. and II. (Russian.) Nikita, Yalta, 1939, X, 771
 Nomblot, A. *Traité d'arboriculture fruitière et de pomologie*. Paris, 1935 ?, VI, 234
 Ochse, J. J., and Bakhuizen van den Brink, R. C. Fruiting and fruit culture in the Dutch East Indies. Batavia, 1931, I, 219
 Ochse, J. J., and Bakhuizen van den Brink, R. C. Vegetables of the Dutch East Indies. Buitenzorg, 1931, I, 218
 Ochse, J. J., and de Jong, W. Europeesche groenten. 3rd edit. Batavia, 1932, X, 1548
 Parker, H. H. The hop industry. London, 1934, IV, 493
 Pavlova, N. M. The gooseberry. (Russian.) Leningrad, 1935, VIII, 55
 Petri, L. Le alterazioni dei frutti degli agrumi. Milan, 1933, IV, 304
 v.d. Plassche, A. W. De fruitteelt in Amerika. Doetinchem, 1932, III, 136
 Poenicke, W. Erfolgreiches Veredeln. Berlin, 1937, VIII, 918
 Prain, D., and Burkhill, L. H. An account of the genus *Dioscorea* in the East. Alipore, 1939, X, 1549
 Quayle, H. J. Insects of citrus and other sub-tropical crops. Ithaca, New York, 1938, X, 1263
 Quarrell, C. P. Intensive salad production. London, 1938, IX, 351
 Quinn, G. Fruit tree and grape vine pruning. 7th edit. Melbourne, 1932, III, 425
 Ritter, K., and Schubring, W. Produktion u. Außenhandel der Vereinigten Staaten von Amerika an Gartenbauerzeugnissen. Berlin, 1931, I, 318
 Salisbury, E. J. The living garden. London, 1935, V, 744
 Saunders, L. H. Vegetable growing in the tropics. London, 1940, X, 1547
 Secretain, C. Le murier. 2nd edit. Paris, 1934, IV, 689
 Smith, K. M. Recent advances in the study of plant viruses. London, 1933, III, 612
 Sprecher von Bernegg, A. Tropische und subtropische Weltwirtschaftspflanzen. III Teil: Genusspflanzen. Kakao und Kola. Stuttgart, 1934, V, 747
 Sprecher von Bernegg, A. Tropische und subtropische Weltwirtschaftspflanzen. III Teil: Genusspflanzen. Kaffee und Guarana. Stuttgart, 1934, VI, 980
 Sprecher von Bernegg, A. Tropische und subtropische Weltwirtschaftspflanzen. III Teil: Genusspflanzen. Tee und Mate. Stuttgart, 1936, VI, 981
 Sudell, R. The new illustrated gardening encyclopaedia. London, 1932, II, 417
 Talbert, T. J., and Murneek, A. E. Fruit crops. Principles and practices of orchard and small fruit culture. London, 1939, X, 1546
 Taylor, H. V. The apples of England. London, 1936, VI, 612
 Thompson, H. C. Vegetable crops. London and New York, 1939, X, 766

Book Reviews (*continued*)—

- Tressler, D. K., Joslyn, M. A., and Marsh, G. L. Fruit and vegetable juices. New York, 1939, IX, 1085
 Turner, W. I., and Henry, V. M. Growing plants in nutrient solutions. New York and London, 1939, X, 767
 Ukrainian Academy of Sciences, Institute of Botany. Ukrainian flora (Ukrainian with Latin names and descriptions). 2nd edit. Kiev, 1938, X, 1551
 Walter, U. *Der Gartenbau der Welt*. Berlin, 1938, VIII, 1331
 Went, F. W., and Thimann, K. V. Phyto-hormones. New York, 1937, VIII, 1338
 Whitelaw, E. W. Practical replanting of rubber. Colombo and London, 1938, IX, 686
 Windle, E. G. Modern coffee planting in India. London, 1933, IV, 307
 Wormald, H. Diseases of fruits and hops. London, 1939, IX, 352
 Zander, R., and Heckel, M. Dictionary of horticultural terms in four languages. Berlin, 1938, VIII, 1333
 Zhuchkov, N. G. The production of dwarf fruit trees on new lines. (Russian.) Moscow, 1936, VIII, 303
 Zhukovsky, P. La Turquie Agricole. Partie Asiatique-Anatolie. (Russian, French summary.) Leningrad, 1933, IV, 144
 Borates—
 leaching of, IX, 745
 in the packing house, V, 509
 Borax, *see also* Boron—
 and apple storage quality, VIII, 398
 control of brown heart of turnips, VII, 681; VIII, 123, 396, 654
 for control of citrus moulds, *see* Citrus, borax toxicity in soil, IX, 747
 treatment of fruits, III, 599, 600; IV, 484; V, 509; VI, 217
 Bordeaux mixture, *see* Sprays, bordeaux
 Boron—
 absorption by lemon leaves, VII, 720
 accumulation in reciprocally grafted plants, V, 332
 in agriculture, VIII, 654; IX, 744, 1135; X, 467-472, 835, 836
 in apples, *see also* and cork, VII, 616, 884; VIII, 397
 behaviour in soils, X, 837
 bibliography, X, 35
 and bitter pit in apples, VIII, 400; X, 956, 957
 and cereals, VIII, 925
 and citrus growth, I, 76, 267, 369; VIII, 654; IX, 575
 for citrus hard fruit, VIII, 1154; IX, 1341
 contents of vegetables, fruits and nuts, X, 1290
 and cork in apples, V, 385; VI, 466, 596; VII, 62, 63, 323-325, 612, 616-618, 620, 878, 883, 885; VIII, 396, 654, 655, 734, 735; IX, 92, 93, 845; X, 467, 471, 531, 958
 deficiency—
 in apples, VIII, 612; IX, 1526; X, 531, 955
 in apricots, IX, 1217, 1526
 and brown heart in swedes and turnips, VII, 612, 681; VIII, 123, 396, 654, 845; IX, 511
 in carrot, VIII, 480; X, 1047

SUBJECT INDEX

- Boron, deficiency (*continued*)—
 in cauliflower, VI, 783; VIII, 396, 1092;
 IX, 140
 in citrus, VIII, 1138, 1154; IX, 1341
 diagnosis of, X, 1351
 in New Zealand, IX, 1526
 in peach, VII, 879
 plant development in cases of, VIII, 925
 and plant fertility, IX, 1134
 in red currants, IX, 463
 in soya bean, X, 468
 in strawberries, IV, 363; VIII, 654
 in sugar beet, IX, 845; X, 838
 in sunflower, X, 468, 1354
 sunflower as indicator of, X, 1354
 in Swiss orchards, X, 958
 symptoms in general, VIII, 925
 in tobacco, IX, 845
 in vegetables, VIII, 1078
 in vines, VII, 322
 determination, VII, 1, 2; IX, 1137
 dressings, length of effectiveness, VIII, 399
 in excess, VI, 634; IX, 575; X, 468
 fibre and oil plants affected by, IX, 1310
 German experience with, X, 470
 and growth substances, interrelation with,
 X, 817
 in horticulture, VIII, 396, 655; IX, 744; X,
 467, 836
 in irrigation waters, V, 192
 isotopes for studying salt movement, IX, 1138
 Italian studies on, X, 469
 and leguminous plants, VIII, 925
 on lettuce, effect of, VII, 368
 literature, VI, 635; IX, 744; X, 35
 as nutrient—
 affects calcium in ash, X, 1080
 carbohydrate metabolism in relation to,
 IX, 1136
 and onion, VIII, 925
 and pear, VIII, 655
 and plant fertility, IX, 1134
 and pollen germination, VIII, 36
 and reproduction, IX, 746
 in San Joaquin Valley, Calif., V, 192
 status—
 of N. Zealand apples, X, 1353
 of S. Australian apples, VII, 616
 and tomato, VIII, 1103
 toxic concentrations, *see* in excess
 Botanic gardens of the world, VII, 1110
 Botanical—
 exploration, VI, 617
 terminology, German-English, IX, 682
 Botany—
 of the future, address by W. Crocker, IX, 374
 in the tropics, economic, X, 227
Botryodiplodia on citrus, VIII, 895
 Botrytis—
 cineraria—
 on beans, *see* Beans, chocolate spot
 on grapes, *see* Vine, Botrytis rot
 on rose, VIII, 507
 in stored apples, IX, 1058
 on tomato, VIII, 142, 783, 1107
 disease—
 of coffee, IX, 1402
 of lettuce, IV, 88; V, 645; VIII, 770
fabae, *see* Bean, chocolate spot
narcissicola, X, 1113
 spp. causing damping off, VIII, 744
vulgaris on grapes, X, 119
- Bougainvillea glabra*, plant hormones for, IX, 734
Boysenberry in Michigan, X, (516)
Brachyrhinus spp. on strawberry, VI, 308; VIII, 449
 Bracken control, X, 1006, 1376, 1377
 Bramble shoot webber (*Notocelia uddmanniana*),
 IX, 877; X, 994
 Bramley's Seedling, fruit morphology, II, 19
 Brandy making, IX, 1490
Brassica, heteroauxin and meristem growth, X, 1281
Brassicae—
 cultivation, X, 1052
 oil plants, fungi of, X, (615)
 seed crops, pests of, IX, 905
Brassolis sophorae on coconut, IV, 656
 Brazil—
 bananas in, III, 411, 579
 citrus in, VII, 959
 fibre plant production in, III, 384
 fruit growing in, VIII, 1230
 nut, the (*Bertholletia excelsa*), X, 294
 nut, seed coat of, VII, 468
 palms in, IX, 285
 Breadfruit (*Artocarpus communis*), VI, 178; X, 705
 Bread making, apples used in, IX, 327
 Breadnut, the Maya (*Brosimum alicastrum*), VI, 177
 "Breaking" in tulips, *see* Tulip, breaking
 Breeding—
 almond, V, 9; VIII, 68
 apple, *see* Apple breeding
 apple × pear hybrids, VII, 824
 apple rootstock, VII, 830
 apricot, V, 9; VIII, 21
 banana, *see* Banana breeding
 bean, VIII, 145, 469
 bilberry, II, 34; VIII, 57
 blackberry, III, 477; IV, 49; VIII, 52
 bud mutations affect, VII, 547
 cabbage, IX, 37
 cacao, IV, 458; V, 698; VII, 196
 at Cambridge Horticultural Station, III, 62
 carrot, IX, 133
 cherry, *see* Cherry breeding
 chromosomes and plant, II, 305; VIII, 322,
 360
 citrus, *see* Citrus breeding
 coconuts, IX, 642
 coffee, VI, 164; VII, 455
 in Crimea, vine, I, 359
 cucurbit, VIII, 130
 currant, red and black, VIII, 53, 443, 996
 egg plant, VIII, 133
 flower, VIII, 158, 362; X, 1576
 for frost resistance, X, 858
 fruiting of seedlings accelerated in, VIII, 968;
 X, 1310
 at Geneva, N. York, III, 282
 in Germany, I, 223, 330; II, 348; III, 53,
 318, 355, 510; X, 143
 gooseberry, VIII, 53, 412
 hemp, VII, 949
 hop, VIII, 154
 of horticultural plants, VIII, 361
 at Long Ashton, III, 280; IX, 767
 lupin, VIII, 469
 melon, VI, 285; VII, 895; VIII, 423
 at Mitchurinsk, IX, 769-771
 nectarine, V, 9
 in N.S. Wales, I, 222; V, 9; IX, 768
 at the Nigerian Dep. Agric., III, 229
 nut, VIII, 68
 onion, IV, 86; VIII, 124; X, 143
 origin of cultivated plants, V, 336

SUBJECT INDEX

- Breeding (continued)—
 ornamental shrub, VIII, 50
 paprika, IX, 137
 passion fruit, V, 9
 pea, V, 652; VIII, 145, 469
 peach, *see* Peach breeding
 pear, *see* Pear breeding
 pepper, VIII, 133; IX, 137
 petunias for double flowers, IX, 179
 plum, *see* Plum breeding
Pomoideae, *see* Pome fruit breeding
 practical plant, VII, 1105
Primula malacoides, VIII, 159
Prunus, IV, 163, 319
 raspberry, *see* Raspberry breeding
 resistant races, IX, 1140
Ribes, VIII, 443
 rose, III, 520
Rubus, IV, 49; X, 923
 salad crop, VIII, 129
 small fruit, II, 348
 stone fruit, VII, 547; VIII, 24, 667
 strawberry, *see* Strawberry breeding
 sub-tropical fruit crops, VIII, 169
 sugar beet, VIII, 469
 sweet potato, IX, 613, 1361; X, (670)
 tomato, *see* Tomato breeding
 tung oil, VIII, 68, 203
 turnip, VIII, 469
 unusual opportunities in, VIII, 50
 in U.S.A., I, 28; VI, 646; VIII, 50
 in U.S.S.R., III, 318; VI, 646; VIII, 23,
 363-365, 412, 965; IX, 410, 411, 769-771
 vegetable, *see* Vegetable breeding
 vine, *see* Vine breeding
 water melon, IV, 48; VIII, 423
 X rays as aid to, III, 315; IV, 151; VII, 19;
 VIII, 158
- Bremothrips irisidis*, VIII, 521
Bremia lactucae, VIII, 481; X, 588
Brevicoryne brassicae, VI, 332; VIII, 1094
 Bridge grafting, II, 30; VI, 657; VII, 918, 919;
 IX, 44, 412, 777
Brimeura amethystina, plant hormones and, IX,
 730
 Brine, hardening soft cherries in, methods of, VI,
 223
 Bristol University, horticultural work at, *see also*
 Long Ashton, III, 429
 British Columbia—
 agric. Statistics Rep. 1935 and 1937, VI, 985;
 VIII, (1378)
 Dep. Agric. A.R. 1935 and 1937, VI, 986;
 VIII, 1346
 plant diseases, VII, 65
 raspberries in, VIII, 415; X, 509
 vegetables in, VIII, 114
- British Guiana—
 Dep. Agric. Div. Rep. 1937-1938, IX, (726);
 X, (792)
 Dir. Agric. administ. Rep. 1937-1938, VIII,
 (1378); X, (450)
- British Honduras—
 cassava in, VIII, 579
 Dep. Agric. A.R. 1937-1939, IX, (726), 1523;
 X, 1556
- British Solomon Islands, coconuts in, V, 293
 British Somaliland, vet. agric. Dep. A.R. 1936-1939,
 VIII, 1368; IX, (726); X, (450)
- Broccoli—
 nutrition, IX, 906
 storage, VII, 1088; VIII, 1304; X, 375, 1520
- Bromeliaceae*, morphology and biochemistry, IV,
 132
 Bromine for seed treatment, VIII, 371
 Brompton plum as peach stock, VIII, 679
 Broom fibre industry, X, 1103
Brosimum alicastrum, VI, 177
 Brown rot diseases of fruit trees, *see* *Sclerotinia*
 diseases and species attacked
Bruchus pisorium, IX, 104, 157, 158
 Brussels sprouts—
 diseases, market, IX, 311
 fertilizers, VIII, 470, 775, 1093
 varieties, VII, 691; VIII, 468
- Bryobia praetiosa*, V, 407
- Bud—
 axillary, of peach, I, 333; VII, 284
 dormancy, VII, 270
 fruit, *see* Fruit bud
 growth, some experiments in, IX, 1116
 inhibition—
 and bioelectric currents, VIII, 348
 due to growth substances, *see* Growth
 substances, inhibitive effects
 low temperature effect on, X, 1359
 microtechnique for flower, VII, 271
 mutation *see also* variation
 mutation bibliography, IX, 375
 opening in deciduous fruit trees, chilling
 needed for, VIII, 387
 periodicity in citrus, III, 220
 selection—
 in citrus, *see* Citrus bud selection
 in horticulture, II, 109
 temperature of fruit tree, VI, 270; IX,
 1165
 union in citrus, VII, 155
 variation—
 in apple, *see* Apple bud mutation
 in cherry, *see* Cherry sports
 in citrus, *see* Citrus bud variation
 in peach, II, 110
 in prune, III, 444
 induced by vegetative propagation, IV, 8
 in vine, V, 206; VI, 286, 716
- Budding—
 apple, *see* Apple budding
 cacao, *see* Cacao budding
 chip, VIII, 368
 citrus, *see* Citrus budding
 coffee, V, 285
 fruit tree stocks, III, 445; VII, 288; IX, 46
 and grafting manual, VIII, 918
 lime, VIII, 1135
 mango, VIII, 248, 570
 peach, VII, 284; VIII, 679
 plate, VIII, 368
 razors, IV, 322
 rubber, *see* Rubber budding
 rubber strips or raffia for ?, III, 290
 shield, V, 166; VII, 23; IX, 775
 tea, IX, 1391
 technique, III, 290; IV, 322, 323; V, 166;
 VI, 616, 652, 655; VIII, 918; IX, 44, 46,
 775; 1413
 vine, *see* Vine budding
 walnut, VIII, 721; IX, 454
- Bug, tarnished plant (*Lycus pratensis*)—
 as pest of apple, IX, (1260)
 vector of soft rot in celery, IX, 146
- Buitenzorg agric. Exp. Stat., list of publications,
 X, (1214)
- Bukalasa Exp. Stat., results at, X, 1180

SUBJECT INDEX

- Bulbs—
 bath, see hot water treatment
 chemical treatment, III, 524; VIII, 519;
 IX, 182, 1322
 composition of flowering, X, 183
 diseases, IV, 424; V, 82; VI, 357, 530; VII,
 956; X, 427
 eelworm (*Anguillulina dipsaci*), see also hot
 water treatment, VI, 131; VIII, 749; X,
 187
 eelworm of iris (*Ditylenchus dipsaci*), VIII,
 519; IX, 183
 experiments at Kirton exp. Stat., IX, 182;
 X, 180-186
 forcing, V, 80, 81; VI, 809; VII, 415, 416,
 422; VIII, 517; IX, 182, 952
 growth periodicity, VIII, 164-167
 hot water treatment of, IV, 97, 98; VI, 131,
 358; VII, 417, 795; VIII, 521, 1121;
 IX, 182, 183, 1322; X, 186, 187, 1404
 hyacinth, size influences composition, IX,
 1319
 industry in South Lincolnshire, IX, 556,
 manuring, V, 78
 mite (*Rhizoglyphus hyacinthi*), VII, 424
 pests, V, 82; IX, 959
 production, IV, 604; V, 78; X, 424
 from seed, IV, 604
 sterilization and dusting, IV, 424
 storage temperature affects growth, VII, 415,
 416; VIII, 517
 supplies in U.K. in 1937 and 1938, VIII, 1341;
 IX, 1516
 in tropics, IX, 957, 1522
 vapour heat treatment, IX, 959
 water table level and growing, IX, 185
 Bulletins of U.S.A., agric. Exp. Stats. 1933-1934,
 VII, 798
 Burbank's plums and prunes, II, 11
 Burette, a self-adjusting, VII, 274
 Burma—
 crops, market surveys, VII, 179; X, (313)
 Dep. Agric. A.R. on operations of 1938/9,
 X, 1557
 Dep. Agric. Rep. agric. Stats. 1936/7-1938/9,
 VIII, (1378); IX, (726); X, (450)
 groundnut in, II, 190
 Markets Section bulletins, X, (313)
 tung oil trees in, II, 73
 Burnihat citrus research station, X, 1554
 Butterfly, white, control of, VI, 121
 Butternut (*Juglans cinerea*) seedling production in,
 VII, 313
Butyrospermum parkii, III, 252; IX, 1048
 By-products, see specific plants
Byssoschlamys fulva in canned fruit, VI, 973;
 VIII, 1318; IX, (1509); X, 1253
Byturus tomentosus, see Raspberry beetle
- Cabbage—
 aphid (*Brevicoryne brassicae*), VI, 332; VIII,
 1094
 breeding, IX, 37
 Chinese, see Chinese cabbage
 club root (*Plasmodiophora brassicae*), IV, 403;
 V, 644
 diseases, market, VII, 689; IX, 311
 germination, factors affecting, IX, 509
 and growth substances, VIII, 938; X, (460)
 manuring, IV, 402; VII, 114; VIII, 470;
 IX, 1267; X, 1381
- Cabbage (continued)—
 moth (*Plutella maculipennis*), V, 414
 pests, VII, 689; IX, (547)
 root—
 damage, IX, 867
 fly (*Delia (Hylemyia) brassicae*), X, 1053
 seedling growth and delayed nutrition, IX,
 (547)
 storage, VI, 511; VIII, 588; X, 374, 1521
 transplanting, IX, 139
 in tropics, VI, 200; VIII, 883; X, 148
 varieties, V, 71; VIII, 468, 882
- Cacao, see also Cocoa
 Cacao—
 alkaloid content, VII, 1032; IX, 1501, 1502
 Almeida, a new var. of Forastero, IX, 253
 barren types of, V, 471
 bean—
 biochemistry, VII, 1030, 1031, 1034;
 VIII, 1220; IX, 1504
 germination, V, 474
 purple colouring in, X, 1468
 shell, vitamin D in, VI, 231; VIII, 914
 size, IV, 639
 tannins in, VII, 1033; VIII, 1220
 theobromine estimation in, VII, 1032;
 IX, 1501-1502
 quality in, VII, 1030
 black ant, encouragement of, IX, 1405
 black pod, VI, 912; VII, 198
 botany, II, 285; V, 468; VI, 571; VIII, 1214
 branching, IV, 455
 breeding, IV, 458; V, 698; VII, 196
 budding, IV, 457; V, 470, 699; IX, 1405
 caffeine in, IX, 1501
 carbon assimilation, X, 1467
 chemical programme in Trinidad, III, 394;
 V, 469; VI, 575
 cherelle wilt, VIII, 1216, 1218; X, 1464
 classification of tree types, V, 698
 commercial characters desirable, IV, 117
 compatibility, V, 471; VII, 1027; VIII, 1215,
 1217-1219; IX, 1406-1409; X, 1185, 1459,
 1461
 composition of tree, IV, 465
 cotyledon colour as method of selection,
 IX, 254
 cotyledons, II, 71
 criteria and selection methods, III, 395
 cultivation—
 in Ceylon, II, 286
 in Dutch East Indies, I, 390
 in Ecuador, reasons of decline in, III, 556;
 VII, 197
 in Guatemala, X, 266
 on loam soils, X, 1184
 in Malaya, VIII, 234
 manual on, V, 747
 in New Guinea, IX, 627
 in Nigeria, selection for, X, 1457
 in Philippines, IX, 1404
 on River Estate, Trinidad, III, 134
 in Trinidad, and investigations, I, 181, 182;
 III, 134, 394-402, 430, 557; IV, 453-466,
 504; V, 470-481; VI, 166, 571-578,
 1005; VII, 1025-1034; VIII, 859, 1214-
 1220; IX, 1406-1408, 1411, 1500-1504;
 X, 1458-1461, 1463-1466, 1468, 1583
 in Western Samoa, VIII, 1184
 curing, I, 315; IV, 684; VI, 166, 231, 410,
 611, 969, 970; VII, 1031; VIII, 912, 913,
 1329; IX, 1500-1503

SUBJECT INDEX

- Cacao (continued)—**
 cuttings, I, 392; II, 284; III, 399; IV, 273, 453-455; VI, 572, 882; X, 1186, 1187, 1458
 degeneration, VI, 167
 die back, VII, 1035; X, 1189
 disease, a new, IV, 640
 diseases, control of, VI, 381
 ecological studies, IV, 466; V, 469
 environmental study, III, 402
Ephestia contamination, II, 177; IX, 1478
 fat content, IX, 1500, 1503
 fermentation, *see* curing
 fertility, *see* pollination
 flavour (varietal), IX, 1505
 flowers—
 abscission, III, 398
 biology, II, 390
 fruit setting, III, 398; X, 267
 fruitfulness, III, 398; IV, 460; VI, 574
 genetics, II, 71; III, 396
 grafting, V, 699
 green manuring, I, 383
 growth—
 and nutrient deficiencies, V, 480
 rate and mineral intake by the pod, X, 1465
 gypsum phosphate problem, V, 481
Helopeltis control, X, 1192
 incompatibility, *see* compatibility
 kernel, biochemistry, VIII, 1220
 leaf flush and mineral intake by shoot, X, 1466
 leaves, III, 400; V, 479
 literature, review of, II, 285; VIII, 1214
 manganese content of soil, V, 578
 manuring, I, 383; IV, 460, 464, 465; V, 120, 473, 477, 479-481; VI, 574, 577, 911; VII, 1029; VIII, 859; IX, 1411; X, 1188, 1463
Marasmius perniciosus in, VII, 197; X, 1191
 marginal leaf scorch, VII, 1028
Monilia roreri on, VII, 197
 moth (*Ephestia elutella*), II, 177; IX, 1478
 mulching, V, 478
 mycorrhiza, V, 475
 nutrient requirements, IV, 465; V, 479, 480
 ovule loss at fertilization, V, 473
 pigment factors, IV, 456, 461
 pod—
 maturation value, X, 1469
 morphology, IV, 461
 pollination, II, 390; IV, 462, 467; V, 472, 473; VI, 910; VII, 1027; VIII, 1215-1219; IX, 254, 1406-1409; X, 440, 1459-1462
 potash deficiency symptoms, VII, 1028
 processing, *see* curing
 production and world trade, I, 93
 progeny of single tree, III, 397
 propagation costs, X, 1458
 pruning, V, 121
 tree rat, a pest of, VIII, 564
 regeneration, X, 693, 1470, 1471
 relief measures in Trinidad, V, 697
 root disease associated with (*Ustulina zonata*), VI, 379
Sahlbergella blast, X, 1189
 sanitation, I, 391; VI, 381
 seed—
 sowing, VIII, 1221
 variation after storage, V, 126, 474
 seedling transplanting, VI, 380
 selection, II, 71; IV, 458, 459; VI, 573, 909; VII, 196; IX, 254; X, 1457
 Cacao (continued)—
 self-incompatibility, *see* compatibility
 soils, III, 400, 401, 557; IV, 463; V, 476, 481; VI, 168, 576, 578; VII, 1025, 1026
 spacing trials, VI, 1005
 sterility in, *see also* pollination, III, 398; V, 471
 storage, I, 94; V, 126, 474; VIII, 899
 storage, *Ephestia* contamination, II, 177; IX, 1478
 "swollen shoot" of, VII, 1035; X, 1190
 tannin and catechin in, VIII, 1220
 thrips, VII, 1028
 Timor varieties, III, 393
 transpiration, X, 1467
 transplanting seedlings, VI, 380
 transport, V, 474
 trenching, VI, 1005
 uniformity trials, II, 389
Ustulina zonata in, VI, 379
 variability in budded, IV, 457
 vegetative propagation, I, 392; II, 284; III, 399; IV, 273, 453-455; V, 470, 699; VI, 572, 882; IX, 1405; X, 1186, 1187, 1458
 vitamins in, VI, 231; VIII, 914
 witches' broom resistance, X, 1191
 yield—
 affected by soil and age, VII, 1025
 factors affecting, VIII, 1218; IX, 1410
 variations, II, 391; VIII, 1218
- Cacoecia—**
argyrosipa, X, 1372
craetaegana, biology of, III, 508
(tortrix) podana, V, 63, 231; VIII, 748
rosaceana, VIII, 451
 spp. in U.S.S.R., VIII, 724
 Caddis fly, (*Limnophilus lunatus*), pest of water-cress, X, 1059
 Caen pomological station, work of, VIII, 598
 Caffeine—
 in cacao, IX, 1501
 in tea leaves, VIII, 226
Calamagrostis epigeios weed, VIII, 829
 Calceolaria, flowering affected by artificial lighting, IX, 548
 Calcium—
 affects firmness of canned tomatoes, X, 1071
 and blotchy cork in apples, VII, 885
 citrate, product of *Citrus medica*, VII, 1099
 citrus requirements of, II, 168; IX, 571
 cyanamide—
 as apple fertilizer, VIII, 696; IX, 814
 and clubroot, V, 644
 to control *Heterodera schachtii*, V, 250; VI, 349, 522
 to control *Sclerotinia fructicola*, IX, 1229
 and defoliation, V, 191
 as fertilizer, V, 191; VI, 276, 684, 693
 deficiency, III, 456; VI, 731; VII, 879; VIII, 690, 1078; IX, 1283; X, 142
 determination by micro-analysis, IV, 350
 effect on plants, VIII, 8
 hypochlorite—
 for *Penicillium*, VII, 955
 for seed sterilization, VIII, 144; IX, 519
 influences organic acid content, X, 834
 mushroom requirements of, IX, 531
 potassium ratio in peach, VIII, 690
 in strawberry nutrition, IV, 362

SUBJECT INDEX

- California—
 agric. Exp. Stat. Rep. 1936/8, **IX**, 1524
Avocado Ass. Yearbook 1931 and 1939,
II, 56; **X**, 1558
 berry fruit growing in, **IV**, 543
 fig growing in, **IV**, 516
 fruit growing in, **III**, 278
 lettuce production in, **IX**, 144
 the lime in, **II**, 368
 nectar and pollen plants in, **II**, 22
 plant quarantine in, **IV**, 62
 soil erosion in, **III**, 7
 vines, ampelography of *vinifera* grapes, **IX**, 78
- Calines, growth factors, **VIII**, 7, 319
Calystegia spp. weeds, **VIII**, 829
- Callus knots on apple piece root grafts, **IV**, 167
 in deciduous orchards, **I**, 31; **III**, 328; **IV**, 167
 growth substances affect, **VIII**, 431, 630;
IX, 735
 in *Hibiscus* sp. and *Hevea*, **IV**, 123
 potassium affects, **VI**, 144
 in rubber budding, **IV**, 276
- Calomel as insecticide, **X**, 989, 1053
Calophyllum inophyllum for fencing, **VIII**, 876
- Cambial activity—
 and heteroauxin, **VIII**, 338
 and polarity in poplar, **VI**, 250
- Cambium, intra-cellular rods in, **VII**, 891; **IX**, 452
- Cambridge, horticultural plant breeding at, **III**, 62
- Cambridgeshire, fruit soil survey of, **III**, 436
- Camellia sativa*, potash deficiency in, **VIII**, 798
- Camellia*—
sasanqua, cuttings, **VII**, 413
sinensis, see *Tea*
- Camphor—
(Camphora officinarum) in Ukraine, **X**, (226)
 in Western Caucasus, **VIII**, 871
(Cinnamomum camphora)—
 in Indo-China and East, **V**, 276
 in Italy, **I**, 178
 in Soviet sub-tropics, **IX**, 995
(Ocimum canum), or camphor basil, **X**, 222, 671
 scale (*Pseudaonidia duplex*), **V**, 54; **VI**, 101
- Can, see Canning, cans
- Canada—
 Dep. Agric. departmental directory and list
 of publications 1938, **IX**, 21
 Dep. Agric. list of publications 1939-1940,
X, (431), (1587)
 Dominion Botanist Rep. 1935/7, **IX**, 1525
 Dominion Experimental Farms, **X**, 414
 Experimental Sub-Stations, results of experiments of 1931-38, **X**, 1560
 farmers' organizations in, **VI**, 243
 Fruit, Vegetables and Honey Act, **IX**, (689)
 horticultural work in, **I**, 427
 Illustration Stations, Progr. Rep., Part II,
 1934-38, **X**, 1559
 Minister of Agriculture for Dominion A.R.
 1936/7-1937/8, **VIII**, 306; **IX**, 688
 National Research Council A.R. 1935/6-
 1938/9, **VIII**, 305, 1347; **X**, 432, 780
 National Research Council, publications of,
X, (431)
- Canadian—
 fruits, drying of, **II**, 93
 seed potatoes, **IX**, 135
 Cananga oil from *Canangium odoratum*, **X**, 268
Candelospora citri, **VIII**, 189
- Candleberry tree (*Aleurites moluccana*), **IV**, 274;
IX, 220
- Candlenut oil, **VII**, 513
- Cane trash, humus from, **VI**, 374
- Canker—
 in apples, *see* Apple canker
 bacterial—
 of citrus (*Pseudomonas citri*), **VIII**, 537, 1158
 of stone fruit (*Pseudomonas morsprunorum*),
see Stone fruits, bacterial canker
 of tomato (*Aplanobacter michiganense*),
VIII, 489; **IX**, 154; **X**, 605
(Nectria) entrance modes, **IX**, 1232
 of tea, gnarled stem, due to *Helopeltis bergrothi*, **IV**, 116
 in walnut, European, **V**, 601
 worm (*Alsophila pometaria* and *Paleacrita ornata*), **V**, 620; **IX**, 876, (1260)
- Canna—
 composition of different parts of, **IX**, 612
 starch, **II**, 172
- Canna indica*, red and green leaf transpiration, **IX**, 939
- Cannabis sativa*, *see* Hemp
- Canned—
 apple, vitamin C in stored, **X**, 390
 fruits—
 acidity in, **VIII**, 1320
 drained weight of, **IX**, 1491; **X**, 1525
 firmness induced by calcium chloride,
X, 1254
 production and supplies, **VIII**, 926, 927;
IX, 348, 701; **X**, 419
 sulphur traces in, **X**, 1527
 peas, composition, **VI**, 229
 vegetables—
 hydrogen ion concentration, **X**, 1529
 production figures, **VIII**, 927
- Canneries, domestic, in Canada, **X**, 753
- Canning—
 of apple juice, **VI**, 227; **VIII**, 902; **X**, 387
 in Australia, **V**, 510
 beans, maturity determination, **VII**, 505
 beets, disorders of, **VII**, 1104
 blackberries, **IX**, 1492
 in British Empire, **V**, 311, 510, 740
 cans—
 composition, **X**, 756
 heat penetration in rotating, **X**, (1542)
 internal pressure, etc., **VIII**, 1326
 and composition of vegetables, **VIII**, 1322
 corrosion of cans by sulphur, **VII**, 241
 cucumbers for, **VII**, 380
 D.S.I.R. Lond., work on, **VI**, 989; **VII**, 1092;
VIII, 1313
 domestic, **VII**, 787; **IX**, 322
 in Egypt, **VII**, 772
 in England, **I**, 409; **II**, 416; **V**, 310; **VI**, 222,
 989; **VII**, 239, 787, 1092; **VIII**, 1313
 grapefruit, **V**, 312
 growing fruit and vegetables for, **III**, 611;
VII, 239
 hydrogen swells studies, **X**, 1526
 in Japan, **IX**, 408
 jars, vacuum determination in glass, **VII**, 1103
 leaks, testing for, **VIII**, 1321
 loganberries, **IX**, 1492
 at Low Temp. Stat. Cambridge, **VI**, 989;
VII, 1092; **VIII**, 1313
 mandarin orange, **VIII**, 287
 mould incidence, *see* *Byssochlamys fulva*
 in N. Carolina, **IX**, 322

SUBJECT INDEX

- Canning (*continued*)—
 in Nova Scotia, VII, 1093
 orange juice, IV, 682
 peas, *see* Peas, canning
 peaches, X, 391
 peaches for, X, 854
 pears, effect of maturity and handling on, V, 306
 pineapple, *see* Pineapple canning
 pineapples for, IX, 299; X, 303
 plum, VIII, 1316; X, 1528
 raspberry varieties for, III, 310
 section A.R. Dir. Food Invest. Bd. Lond. 1935-1937, VI, 989; VII, 1092; VIII, 1313
 in S. Africa, V, 740
 stone fruits for, in U.S.S.R., VIII, 668
 tin content of canned fruit and vegetables, VIII, 909, 1325
 tomatoes, IV, 139
Times' Supplement on, I, 409
 of tropical fruit, VIII, 1317
 varieties of fruit for, V, 742; VI, 222; VII, 239
 vegetable growing for, III, 175, 611
 vegetables, *see* Vegetable canning
 and vitamins, *see* Vitamins, canning and cooking affect
- Cantaloupe—*see also* Melon
 forcing, VII, 591
 irrigation, VI, 711
 varieties, VI, 765
- Cantharis obscura* as a pest, IX, 1241
- Capetown precooling store, X, 382
- Cape Verde islands, flora and agriculture, VI, 196
- Caper—
 for reclaiming steppes, X, 616
 surge, resins in, X, 1100
- Capitophorus fragariae*, V, 214, 215, 235; VI, 478; VII, 635, 637; VIII, 752; IX, 445, 872; X, 124
- Capnodis*, stocks resistant to, VI, 495; X, 486
- Capparis spinosa* for reclaiming land, X, 616
- Capping affects growth, IX, 1122
- Capsicum—
annuum, *see* Chillies
 capsicine determination in, X, (226)
frutescens, *see* Pepper and Pimento
- Capsid—
 apple, *see* Apple capsid
 black currant, II, 256
 chrysanthemum, VIII, 509
 coffee, VIII, 857
 common green (*Lygus pabulinus*), III, 343; V, 236; IX, 487
 on tea, IV, 116
- Carabid beetles, II, 257
- Carbohydrate—
 affected by fruit thinning, *see also* Thinning, II, 135
 in apple trees, II, 135; III, 16, 162; IV, 526; V, 20; VIII, 678
 in apples, IV, 669; VIII, (1292)
 effect of blue violet rays on, VII, 805
 and fluorescein in phloem, VIII, 644
 of fruits, determination of, VI, 6
 in leaves, III, 461; VIII, 678; IX, 72
 metabolism in *Vitis vinifera*, IX, 449
 and nitrogen—
 content affects fruit set in apples, VIII, 39
 deficiency in tomato, VII, 386
 in pear trees, III, 295
 treatment of cuttings with, VII, 733
 and vine berry setting, VI, 463
- Carbohydrate (*continued*)—
 nitrogen ratio in peanut, VIII, 572
 nocturnal translocation and time of flowering, VIII, 511
 in plants, determination, X, 1289
 relations of grafted apple trees, X, 1317
 in tomatoes, III, 70
- Carbolineum, *see* Sprays, carbolineum
- Carbon—
 from cherry stones and walnut shells, X, 759
 content of cover crops, III, 98
 dioxide—
 absorption, apparatus for determining, III, 141
 summer oil sprays and, VI, 760
 and apple respiration, VIII, 1287
 assimilation—
 affected by ringing, III, 455
 in apple leaves, VI, 674, 762
 determination, VI, 618
 by tomato, *see* Tomato assimilation
 excess and mushroom growing, IV, 92
 exchange rhythm and fruitfulness, VIII, 15
 in glasshouses, *see* Glasshouse, CO₂ in
 and growth, I, 326; VI, 627; X, 18
 as growth substance, X, 18
 and growth substances, VIII, 621
 in leaf affected by light, VIII, 345
 manuring, *see* Glasshouse, CO₂ in
 measurement in stored fruit, VIII, 1270
 in melon growing, IV, 590
 potato dormancy broken by, IX, 1270
 pressure, juice storage under, X, 386, 748
 use in storage, *see* Storage, gas
- disulphide as fumigant, V, 613
- fertilizers, VIII, 353
- monoxide, effect on root initiation, III, 152, 293
- Cardamom—
 cultivation and selection, I, 284; II, 421; IX, 628
 hairy caterpillar (Fam. *Eupte-Rotidae*), IX, 1383
 weevil (*Prodiocetes haemiticus*) X, 270
- Carica papaya*, *see* Papaw
- Carnation—
 anther smut (*Ustilago violacea*), VIII, 160, (1123)
 aphid, VIII, 505
 the American perpetual flowering, VIII, 498
 in Bermuda, IX, 1522
 cultivation, VIII, 502, 503
 and electricity, VIII, 502
 industry in G. Britain, VIII, 497, 498
 oil, substitutes for, IX, 336
 pests, VIII, 505
 propagation by cuttings, IX, 175, 1315
 red spider mite, VIII, 151, 505
 soil for, V, 76
 sports, VIII, (1123)
 stem-rot of perpetual flowering, VIII, 504
 storage of cut, X, 179
 thrips on, VI, 819; VIII, 151, 505
Verticillium wilt, VI, 818; VIII, 160, 504; X, 1027
- Carnauba wax, VIII, 254
- Carnegie Institution, Div. Plant Biology A.R. 1937/8-1938/9, IX, 690; X, 1562
- Carnivorous plants, IV, 6
- Caroá, fibre plant, VIII, 218

SUBJECT INDEX

- Carob—**
 in Cyprus, **IX**, 225
 pests and diseases, **IX**, 598
 in Sicily, **VII**, 992
- Carotene**—*see also Vitamin A*
 in buds, flowers and fruits, **VIII**, 652
 determination, **VII**, 811
 in oranges, **IX**, 577
 in palm oil, **IX**, 334; **X**, 1538
 in pineapple, **V**, 299
- Carpocapsa pomonella*, see Codling moth
- Carposina adrepella*, **X**, 445
- Carpotroche* sp., **II**, 397; **IX**, 631, 632
- Carrot—**
Alternaria radicina on, **VI**, 777
 anatomy, **IX**, 901; **X**, 1047
 bacterial blight, **V**, 69
 breeding, **IX**, 133
 composition in growth and storage, **IV**, 594
 cultivation, **VIII**, 120
 Danish varieties, **VIII**, 468
 deficiency symptoms, **X**, 142, 1047
 environmental factors and, **VI**, 775
 fertilizers, **VIII**, 122, 470, 480
 field trials, **III**, 439; **VI**, 776
 nomenclature, confusion in, **VII**, 923
 Peruvian, **IV**, 287
 poppy and flax grown together, **IX**, 1311, 1312
 respiration and fermentation in, **X**, (1086)
 rust fly (*Psila rosae*), **IX**, 134
 statistical studies, **III**, 439; **VI**, 776
 storage, **IV**, 594; **VIII**, 588, 1302; **X**, 379
- Carthamus tinctorius*, safflower, **X**, 219
- Carts**, report on rubber and pneumatic-tyred, **V**, 161; **VI**, 564; **VIII**, 656
- Cashew nut (*Anacardium occidentale*)—**
 cultivation, **I**, 299; **VI**, 182, 183; **VII**, 758
 curing of, **I**, 299; **VI**, 603; **VII**, 214, 215
 liquid processing, **X**, (1542)
 new globulin from, **VII**, 517
 in Western India, **VIII**, 594
- Casimiroa edulis*—
 improvement of, **IX**, 588
 for the Sahara, **VIII**, 522
 in Sicily, **V**, 106
 vegetative propagation, **VIII**, 568; **IX**, 1031
- Cassava—**
 in British Honduras, **VIII**, 579
 bud sports, **X**, 248
 cultivation, **III**, 544; **V**, 278; **VIII**, 579; **IX**, 243; **X**, 440, 1169, 1439
 cuttings, **VII**, 1012; **IX**, 1049
 fertilizers, **X**, 1438
 mosaic, *see* virus diseases
 refuse as manure for coconut, **V**, 133
 root studies, **X**, 1437
 starch from, **VIII**, 579
 starch fermentation, **X**, 1542
 storage, **VII**, 483; **VIII**, 899; **X**, 1235
 uses of, **V**, 321; **IX**, 243
 virus diseases, **VI**, 199, 895, 896; **VII**, 183; **VIII**, 1253, 1254; **IX**, 243, 244, 651, 1518, 1519; **X**, 1169
 in Zanzibar, **X**, 1169
- Cassia didymobotrya*, **V**, 114
- Castor oil plant—**
 cultivation, **I**, 285; **V**, 128; **VI**, 172; **VIII**, 155; **IX**, 1026; **X**, 669, 1196
 ecological classification, **X**, (226)
 nutrition of, **X**, 1101
 potash deficiency, **VIII**, 798
- Casuarina**, as windbreak, **VIII**, 185
- Catalase activity—**
 apparatus for recording, **III**, 460
 in stored apples and pears, **VIII**, 1273, 1276
- Categorimeter**, the, **V**, 524
- Caucasus—**
 rubber plants in, **VIII**, 245
 wild fruits as rootstocks, **VIII**, 674
- Cauliflower—**
 boron deficiency, **VI**, 783; **VIII**, 396, 1092; **IX**, 140
 in California, **VI**, 338
 in Ceylon, **III**, 516
 Danish varieties, **VIII**, 468
 magnesium deficiency, **X**, 1054
 pests, **IX**, (547)
 production and marketing in Delaware Co., **IX**, 130
 storage, **X**, 1520
 in tropics, **III**, 516; **VI**, 885; **X**, 722
- Cawthon Institute A.R.** 1937-1938, **VIII**, 1348; **IX**, 1526
- Cecidomyiidae* attacking fungi, **VI**, 496
- Ceiba pentandra*, *see* Kapok
- Celeriac fertilizers**, **VIII**, 470
- Celery—**
Alternaria radicina in, **VI**, 777
 aphids in California, **IX**, 148
 blackheart disease, **IX**, 146
 blight (*Septoria apii*), **VI**, 335; **IX**, 456
 breeding, **VIII**, 129
 changes during storage, **VII**, 497
 early blight control, **VI**, 335
 fertilizers, **IX**, 315, 1277, 1278; **X**, 592, 1058
 heart-rot and boron, **VIII**, 396, 654
 mosaic, **VII**, 927; **IX**, 147
 in New York, **IX**, 914
 ontogeny and vessel development, **VII**, 378
 seedlings, growth substances and root growth of, in, **IX**, 12
 soft rot disease, **IX**, 146
 storage, **VII**, 497; **VIII**, 589; **IX**, 315
 stringiness in, **VII**, 378; **IX**, 149
 tarnished plant bug (*Lytus pratensis*), vector of soft rot to, **IX**, 146
 varietal tests, **V**, 427
- Cell—**
 ice formed in, during freezing, **IX**, 462
 rods, significance of, *see also Bars of Sanio*, **VII**, 277
 wall, plant, **IX**, 377
 water relations of plant, **IX**, 380
- Centipede (*Scutigerella immaculata*)**, **III**, 364; **V**, 413; **IX**, 105
- Cerasus japonica* as rootstock, **VIII**, 29
- Ceratitidis capitata*, **V**, 256; **VI**, 149, 555; **VIII**, 206, 585; **X**, 990
- Ceratonia siliqua*, **VII**, 992; **IX**, 225, 598
- Ceratopteris siliqueosa*, **VII**, 452
- Cercis siliquastrum*, root growth in, **VIII**, 637
- Cerconota anonella*, **VII**, 1039
- Cercopis sanguinea*, primary cause of angular leaf spot of apple, **X**, 985
- Cercospora—**
apii, **VI**, 335
musae, *see* Banana, *Cercospora nicotianae*, **VIII**, 221; **X**, 251
- Cercospora rubi*, **VIII**, 96
- Cereal field experiments**, **II**, 102
- Ceresa—**
bubalus, in Switzerland, **IX**, 1236
sp., **IV**, 225

SUBJECT INDEX

Cereus triangularis in Sahara, VIII, 522

Ceylon—

- agriculture in 1931, II, 419
- cacao in, II, 286
- cherry in, II, 319
- coconuts in, II, 286; III, 248; IV, 284, 651; VI, 987; IX, 1528, 1529, (1544)
- Dir. Agric. Administ. Rep. 1935, 1937-1938, VII, 1112; IX, 1527; X, 1564
- foodstuffs, analysis, VIII, 573
- fruits in, II, 290, 319, 373, 374; III, 95, 228; V, 715; VI, 384
- journal of science publications, catalogue of contents, X, 430
- medicinal herbs, VIII, 862
- orchids in, IX, 1003
- plant quarantine regulations, VIII, 835; IX, 1002, 1378
- report on visit to, IX, 1090

Rubber Res. Bd. Rep. of work 1933, 1936-1939, IV, 505; VII, 1116; VIII, (1378); X, (450), 1565

Tea Res. Inst.—

- A.R. 1936-1937 and 1939, VIII, 315, (1378); X, 1567
- index to publications, X, 1566

work of, III, 232; IV, 629

Chaenomeles lagenaria, breeding, VIII, 50

Chaetodacus passiflorae, VI, 934

Chaetoptelius vestitus, VIII, 754

Chalaropsis sp. in walnuts, V, 396

Chambers—

- humidity control in large, VII, 273; VIII, 14
- plant containing, I, 113, 114; VII, 815; VIII, 12
- temperature control, VIII, 14; X, 27

Changing the nature of plants by cultural means, X, 1379

Charcoal from coconut shell, V, 320; X, 1256

Chaulmoogra oil, II, 397; VI, 171

Chemical variability in plants, VIII, 346

Chemotherapy of plant diseases, *see also* Injection, V, 387

Chemotropism—

- produced by phosphates, VIII, 653
- of roots, VIII, 639

Cherimoya in U.S.A., IX, 588

Cherry—

- aphid, the black, IV, 70; VII, 85
- arsenical spray residues, II, 248
- bacteriosis, *see also* dieback, V, 46; VII, 333, 334, 642; VIII, 1044; IX, 860, 1222

Bacterium pruni in, V, 46

Belgian varieties, VIII, 18

black knot of (*Dibotryon morbosum*), III, 334; V, 602, 603

the Black Orb, III, 443

blossom and fruit abnormalities, IV, 181; VI, 676

breeding, III, 147; IV, 163; V, 9; VI, 651; VII, 18; VIII, 21

brown rot in Morello, IX, 494

buckskin disease, IV, 522

Chinese, breeding, VIII, 50

composition of fruit, VIII, 602; X, 754

cracking of fruits, VI, 27; VII, 648; IX, 854; X, 953

crown gall in, IX, 859

cytology of Duke, IX, (1184)

the Deacon, II, 10

deficiency diseases, X, 958

dieback, *see also* bacteriosis, IX, 1222;

X, 96, 534

Cherry (*continued*)—

dormancy and growth stimulants, IX, 430

embryo—

abortion in, III, 286

artificial culture, III, 147; VI, 651; VII, 18

destruction affects growth, VIII, 388

fertilizers and manures, VI, 37; VIII, 695; IX, 69; X, 71

flowering—

dates of, V, 179

oriental, IV, 419; V, 429

frost injury, V, 383, 584; IX, 90, 459

fruit—

affected by leaf area, V, 21

affected by sprays, X, (1020)

fly (*Rhagoletis cerasi*), II, 255; IV, 75, 571, 572; VI, 92; IX, 116; X, (1378)

growth, V, 349; VIII, 388; IX, 1172

moth (*Argyresthia nitidella*), IX, 867

set, VI, 678; VII, 292

fruiting affected by nitrogenous manuring, X, 71

germination in, I, 26

grading, V, 563

growing—

in Ceylon, II, 319

in Kent, VIII, 958

manual of American, I, 216; X, 1307

in Sahara, VIII, 522

in Switzerland, varieties used in, III, 146; IX, 39

in Tasmania, X, 1307

in Victoria, Aust., III, 442; IV, 13

growth of embryo, seed and pericarp, V, 188

gummiosis, *see also* bacteriosis, IX, 1222

hardening of soft, in brine, VI, 223

hardiness, IX, 459

incompatibility in sweet, VII, 564

juice, VII, 506; VIII, 904

leaf—

area related to fruit, V, 21

curl, V, 389

spot (*Coccomyces hiemalis*), V, 604; VIII, 446

Lethrus apterus a pest of seedling, IX, 481

little leaf in, V, 588

Maraschino, VII, 503

market diseases of, VII, 1073

maturity, *see* ripening

microclimate in tree of, IX, 62

Monilia resistance, X, 542

Morello, II, 116; III, 12; IV, 33, 44, 522; V, 46, 339, 584; IX, 415, 1162

mottle leaf in, VI, 295

nursery growth, II, 16

packing, V, 563

pests of sweet, X, 1263

Pholiota squarrosa on, VII, 644

pollination, I, 140, 143, 345; II, 119, 124,

219, 325; III, 24, 25; IV, 44, 45, 534;

V, 18, 19, 360, 542; VII, 563, 564; VIII, 378, 687; IX, 56-58, 1164; X, 492, 496, 497, 881

propagation, IV, 521

pruning, IV, 182; VIII, 707

raising from freshly gathered, III, 147; VI, 651; VII, 18

research of Halle Institute, VIII, 677

ripening, II, 21; VIII, 41, 708; X, 916

ripening date affects embryo growth, V, 188

root—

growth, V, 176; VIII, 680

injury causes leaf curl, V, 389

SUBJECT INDEX

- Cherry (continued)—**
 rootstocks, I, 39, 40, 130; II, 14, 116; III, 12, 442, 445; IV, 33, 173, 521, 522; V, 4, 339, 584; VII, 1120; VIII, 677, 977; IX, 415, 792, 793, 1162; X, 865, 871, 1307, 1553
Sclerotinia cinerea on, VII, 344; IX, 1230 shading affects fruit set, VI, 678 shot-hole disease (*Coryneum beijerinckii*), VIII, 747 sports, V, 351; X, 53, 54 spray residues, VII, 914; VIII, (467), 759 sterility in sweet, VII, 564 stones, gas and carbon made from, X, 759 storage, III, 125; IX, 657; X, 1228 sucker formation, IV, 182 sulphured, from Bari, IX, 1072 sweet, chromosomes in, IV, 163 topworking V, 12 transplanting, I, 227 unproductiveness, I, 38 varieties, VI, 9, 10; VII, 537; VIII, 18, 670; IX, 39, 406 washing for spray residue removal, VII, 914; VIII, 467 yellow leaf (*Coccomyces hiemalis*) V, 604; VIII, 446 yields, factors affecting, VII, 31
- Cheshunt exp. Res. Stat.—**
 A.R. 1930, 1933 and 1935, II, 308; IV, 496; VI, 988 diseases in 1939, X, 1027 experimental results 1936 and 1938-1939, VIII, 116; IX, 1285; X, 1026 glasshouse research at, VI, 103 pests in 1939, X, 1028
- Chestnut—**
 Chinese water, X, 678 sweet—
 black rot of (*Sclerotinia pseudotuberosa*), VI, 79 breeding, VIII, 68 *Coryneum* disease in, VII, 72; X, 114 fruit, pollen effect on, IX, 844 in Italy, X, 88 male sterility in, X, (950) pollination of Japanese, X, 948 rootstocks for, VII, 72 varieties, X, (950)
- Chicile**, *Couma guatemalensis* as source of, V, 483
- Chico—**
 propagation of Ponderosa, IX, 1033 storage of, V, 149; X, 1238
- Chicory—**
 cultivation, VIII, 479; IX, 150; X, 155 effect of animal hormones on, VIII, 633 strains of coffee, X, 595 as vegetable, VI, 339
- Chillies—**
 in Ceylon, VIII, 238, 861; IX, 629, 630; X, 271 field plot technique, X, 271 leaf curl in, IX, 630 manuring, IX, 629 pungency inheritance in, V, 703
- Chilling requirements for bud opening**, VIII, 387
- Chimaea(s)—**
 disease relationships in, VI, 251 orange, VI, 133 in pineapple, VI, 195 a review on, I, 116; IX, 376 sweet potato, IX, 1362
- China—**
 crop diseases in Kiangsu, X, 524 grass (*Boehmeria nivea*), see Ramie pears in, VIII, 358 tea growing in Southern, II, 380
- Chinese cabbage (*Brassica chinensis*)**, V, 245; VIII, 476, 1091; IX, 311
- Chionaspis—**
citri, V, 455
furfura, VIII, (1072)
- Chlorate—**
 contamination removal, IX, 1253 detection in soil, IX, (405) in soil, toxicity of, IX, 747
- Chloridium musae**, VII, 226
- Chlorine—**
 causes avocado ring neck, VI, 561 in vine leaf, diagnostic value of, IV, 207
- Chlorophyll—**
 accumulation in leaves, X, (847) components of leaves, VIII, 349 determination, VI, 254 exchange in foliage leaves, VI, 253 formation, iron contents and, III, 454 in pineapple affected by manuring, V, 298 in Sultanina grapes and raisins, VIII, 64 temperature affects accumulation in seedlings, II, 5
- Chloropicrin as soil fumigant**, X, 1064
- Chlorosis—**
 in beetroot and spinach, IX, 900 in blueberry, VII, 888 cause diagnosed by injection, VII, 602, 604 chlorophyll relation in cases of, III, 454 in citrus, V, 96; VIII, 1150; X, 193 in citrus, infectious, V, 678; X, 642 coffee, V, 467 control—
 in deciduous fruits, VII, 887 by injecting iron salts, I, 257; V, 194, 195; VII, 61 due to—
 copper deficiency, II, 241, 340 iron deficiency, I, 257; IV, 353; V, 194, 195; VII, 602, 604 potassium deficiency, IX, 94 in gardenia, IX, 940 grapefruit, V, 442 iron treatment of, I, 257; II, 142; V, 194, 195; VII, 61; VIII, 1039, 1040 manganese sulphate treatment of, IX, 177 in oil palms, VI, 925 of orange leaves, V, 96 in ornamentals, IX, 177 in peaches, V, 194, 589; VI, 732; VII, 60 in pear trees, II, 127; III, 454 in red currant, IX, 94 soil temperature affects, IX, 940 tracheal sap in pears affected by, II, 127 of the vine, VI, 733; X, 533
- Chota kitchlee (*Citrus reshni*, hort. var. *canaliculata*), III, 1126**
- Chromium, effect on plants**, VIII, 649
- Chromosome(s)—**
 complement and vitamin C, IV, 162 doubling by colchicine, VIII, 322, 945 and plant breeding, II, 305; VIII, 360 in the *Pomoideae*, II, 12; IV, 22, 160 in *Prunus*, IV, 163 in tea, VIII, 224, (1203)
- Chronica Botanica**, V, 323; VI, 614; X, 1550

SUBJECT INDEX

- Chrysanthemum—**
 aphides, V, 432
cinerariaefolium, see *Pyrethrum*
 culture, VII, 791; VIII, 508; X, 620
 diseases, VIII, 509
 elworm of, IV, 423; VIII, 509; IX, 456;
 X, 177
 flowering retarded or advanced by radiating
 or darkening, IV, 417; VII, 140, 952, 953;
 VIII, 511, 1118; IX, 942-945; X, 1111
indicum, photoperiodicity and hormones, IX,
 7, 13
 industry in G. Britain, VIII, 497, 500
 leaf miner (*Phytomyza atricornis*), VII, 142;
 VIII, 509
 midge (*Diarthronomyia* sp.), VII, 409; VIII,
 509, 510; X, 176, (1114)
 nutrition of, IV, 603
 pests, VIII, 509
 photoperiodicity in, IV, 417; VII, 140, 952, 953;
 VIII, 511, 1118; IX, 7, 13, 942-945; X, 1111
 propagation, IX, 175
Psila nigricornis on, III, 364
 in sand cultures, VII, 141
 wilt (*Verticillium* sp.), VIII, 509, (1123); X, 1027
- Chrysobothris femorata**, VIII, (467); IX, (1260)
- Chrysoclista atra**, VII, 363
- Chrysomphalus—**
aonidum, IX, 583; X, (648)
aurantii, III, 539; VII, 169; IX, 209
obscurus, IX, 486
- Chrysophyllum cainito**, VII, 464; X, 707, 1204
- Cicadulina mbila**, a virus vector, IV, 61; IX, 1518
- Cider—**
 apple production, see Apple, cider
 brandy, VIII, 903
 checked fermentation, X, 1246
 clarification, I, 213; II, 295
 containers, woods suitable for, V, 515
 fermentation control by centrifuge, IV, 488;
 IX, 1075
 fruit requirements for, VI, 11
 heavy metal determination in, VII, 779
 keeving, VI, 608; VIII, 908
 from low grade apples, V, 313, 511; VI, 418
 maceration, VI, 418; VIII, 908
 maker's calendar, X, 857
 manufacture, I, 212; VI, 226; VIII, 598, 599,
 908
 metal affected by, IV, 487
 orchards in France, IX, 759
 pomace, IV, 143
 preservation with CO_2 , X, (1258)
 press, a home, VII, 778
 products, VII, 1096
 research at Caen, VIII, 598; IX, 759
 ripeness in apples affects, X, 914
 rôle of pectin in, V, 512
 storage temperature, II, 296
 sweet, production of, VIII, 599; X, 1246
 vinegar, VIII, 903
 volatile acidity in, III, 423; VII, 780
- Cincturing**, see Ringing
- Cinchona**, see also Quinine
- Cinchona—**
 bark industry, the world's, X, 275
 cultivation—
 in Belgian Congo, VIII, 863; IX, 1028
 in Central America, V, 705
 in Dutch East Indies, I, 286; VIII, 842,
 1225; IX, 1028
 in Indo-China, V, 288; IX, 1027
 formation, cultivation (continued)—
 at low altitudes, VI, 382
 throughout the world, VIII, 863; X, 697
 in U.S.S.R., VI, 916; VIII, 864, 865; IX,
 1412
 fertilizers and stimulants, VIII, 240, 864;
 X, 1474
 investigations in Amani, V, 287
 pests, VIII, 899
 photosynthesis, VIII, 806
 propagation, VIII, 865; X, 698, 699
 seedling blight (*Phytophthora* spp.), IV, 641;
 V, 706
 soil pH and, VIII, 1226
- Cinema**, survey of films on agricultural subjects,
 X, 477
- Cinnamic acid**, activation by ultra-violet light,
 IX, 1107
- Cinnamomum camphora**, see Camphor
- Cinnamomum zeylanicum**, VII, 201
- Circumeter**, a fruit, VII, 158; X, 915
- Citrin**, VII, 242
- Citron—**
 composition and fermentation, VII, 434
 Japanese, II, 275
- Citronella oil** in Ceylon, see also *Cymbopogon*,
 VII, 784
- Citropsis**, orange-like species of genus, VI, 134
- Citrullus vulgaris**, inheritance in, VIII, 1004
- Citrus—**
 age of South African trees, X, 1408
 albinism in seedlings, IX, 965
 alcohol production from, V, 157
 alkali in soil and, V, 264; VIII, 529
Alternaria rot, VI, 218; VIII, 1155; X, 644
 ammoniation, IX, 1341
 anthracnose (*Colletotrichum gloeosporioides*),
 VI, 861; VIII, 895
 aphid (*Toxoptera aurantiae*), IX, 209
 apogamy, I, 75; II, 159, 160
 areolate leaf spot (*Corticium areolatum*), X,
 641
aurantifolia, see Lime
aurantium, a red-fleshed seedling of, IX, 172
 biennial bearing, V, 437; VIII, 173, 174
 black fly (*Aleurocanthus woglumi*), X, (648)
 black spot (*Phoma citricarpa*), X, 207
 blast, VIII, 1157
 boron—
 deficiency in, VIII, 1138
 in nutrition of, I, 76, 267, 369; VIII, 654;
 IX, 575
 toxicity, IX, 575
- boxes, see also packing, X, 352, 1242
- breeding, II, 158; III, 366; V, 9; VI, 135;
 VII, 429; VIII, 169
- bronzing or copper leaf, see also magnesium
 deficiency, VIII, 1150; IX, 575, 1341
- brown rot in, IV, 108; VII, 982
- bud—
 formation periodicity, III, 220
 mite (*Eriophyes sheldoni*), VIII, 191
 selection, I, 81, 174, 364; II, 109, 159,
 366; III, 84, 85, 318, 536; VII, 431, 712,
 715; IX, 1333
- union, VII, 155
- variation, I, 77; II, 366; III, 536, 541;
 IV, 102; VI, 543; VII, 715; VIII, 1132
- budding, III, 219; V, 91; VII, 432; VIII,
 1135; X, 190
- by-products, I, 86, 87, 316, 362, 376; V, 743;
 X, 394, 395, 1534

SUBJECT INDEX

- Citrus (*continued*)—
 calcium requirements, II, 168; IX, 571
Candeloospora citri on, VIII, 189
 canker (*Pseudomonas citri*), VIII, 537, 1158
Chionaspis citri, V, 455
 chlorosis, V, 96; VIII, 1150; X, 193
 chlorosis, infectious, V, 678; X, 642
Citropsis species as stocks for, VI, 134
 classification, VII, 430; VIII, 1124
 Clementine variety, *see* Orange, Clementine,
 clones, nucleolar embryony and juvenile
 characters, IX, 567
 coccids, *see* scale
Colletotrichum gloeosporioides, VI, 861; VIII,
 895
 colorimetric tests for identification, VI, 360
 copper—
 deficiency, *see also* dieback, IX, 575, 1341
 relation to exanthema and fumigation
 injury, V, 449; IX, 575
Cossus cossus, as pest, VII, 983
 cotton boll worm (*Heliothis armigera*) pest,
 VIII, 1163
 cover crops, V, 256; X, 1123, 1124
 creasing and fertilizers, VIII, 535
 credit scheme in Jamaica, V, 670
 crown gall (*Bacterium tumefaciens*), III, 541
 cultivation, clean, evils of, II, 164
 cultural treatment, *see also* growing, I, 363;
 IV, 250; V, 262; VIII, 523; IX, 561, 563,
 564
 cuttings, I, 175, 368; II, 50; IV, 608; VI, 4,
 545, 830, 882; VII, 438, 966; VIII, 631;
 X, 1118
 damping off, VI, 855
 decline—
 in Arizona, V, 264
 in Murrumbidgee, VI, 852
 in Rio Grande Valley, VIII, 810
 deficiency symptoms, *see also* mottle leaf,
 etc., III, 218; IV, 615; IX, 1341
 defoliation due to soil salinity, VI, 853
 die-back, *see also* copper deficiency, III, 543;
 IX, 575, 1341
 diseases, III, 222, 374; IV, 304, 437; V, 269,
 270; VII, 447, 728, 959; IX, 1349;
 X, 1420
 diseases—
 in Dutch East Indies, IX, 1348
 in the Punjab, VI, 552
 in seed bed, VII, 166
 storage, *see also* wastage, III, 602; IV, 678;
 VI, 215-218, 597-599; VIII, 587, 895,
 1260
 X ray detection, VIII, 726
 drainage, IX, 974
 economic factors in, V, 85; IX, 186-188
 environment and growth, II, 365; VIII, 175
 essential oils, I, 85, 86; II, 167; III, 265, 530;
 IV, 694; V, 315; X, 196
 exanthema, V, 449; VI, 851; IX, 575, 1341;
 X, 1128
 fertilization, *see* pollination
 fetola disease, IX, 977; X, 206, 1419
 field experiments, IV, 427
 flora, origin of, VI, 823, 824
 Florida red scale (*Chrysomphalus aonidum*),
 IX, 583
 flowers, chemical compositions of, VI, 835,
 IX, 571
 flower shedding, IX, 570
 flowering, I, 172; II, 163; IV, 251
- Citrus (*continued*)—
 foliocellosis, IX, 1341
 footrot in, *see also* Citrus, *Phytophthora*, V,
 679
 frenching, IX, 575, 1341
 frost—
 damage in Arizona, VIII, 809
 damage avoided by growth among dates,
 VII, 727
 protection measures, I, 84; V, 677; VI,
 854; VII, 318, 440-443, 727, 972-976;
 VIII, 1147; IX, 975, 1343-1347; X, 204,
 205, 638, 639
 resistance, VIII, 531; IX, 203-205, 574;
 X, 1414-1416
 resistance—
 affected by light intensity, X, 1416
 affected by exposing to low tempera-
 tures, X, 1415
 affected by growth processes, X, 1414
 fruit—
 affected by rootstock, VIII, 1136
 ascorbic acid in, I, 414; II, 54; IV, 435,
 VII, 1079; VIII, 291, 896; IX, 1060, 1447
 bleaching to remove sooty blotch, V, 99, 450
 blemishes, surface, II, 370
 borax treatment of, III, 599, 600; V, 509;
 VI, 217
Botryodiplodia theobromae of stored, VIII,
 895
 buds, II, 163; IV, 255; V, 259
 carotene in, IX, 577
 cleaning, III, 221
 colouring, artificial, II, 279, 371, 372; III,
 128, 538, 600, 603; V, 155, 506, 507;
 VIII, 1367; X, 729, 730
 composition, I, 77, 79; V, 440, 441; VI,
 839; VIII, 527, 1136; IX, 571; X, (208)
 decay in Florida, III, 374
 dipping for control of fungi, X, 355, 360
 drop, IX, 570; X, 1119
 emanations from, X, 1232, 1233, (1240)
 exorton—
 from Jamaica, regulation, VII, 167
 restrictions in Palestine, IX, 1329 .
 from Union of S. Africa, IX, 559, 1327
 extracts, *see* Citrus essential oils
 fly (*Dacus ferrugineus*), IX, 1432
 fungi in stored, VIII, 587, 895
 grading by X rays, VII, 159
 granulation, VIII, 187
 hard, VIII, 1154; IX, 1341
 juices, I, 414, 419; II, 54; III, 217, 266;
 IV, 106, 435, 682; V, 156, 266; VI, 414,
 609; VII, 507, 708; VIII, 600, 896, 1319;
 IX, 329, 680, 1488; X, 389, 752, 1270
 marketing, VI, 558, 559
 maturity—
 and grove conditions, IX, 565
 tests and standards, V, 265, 671; VI, 546;
 VII, 435
 nitrogen content, V, 260; VI, 836
 oil deposits in, II, 167; III, 530
 packing, I, 205; II, 206; IV, 678; V, 509;
 VI, 557, 966; VII, 725; IX, 312; X, 352;
 1242
 pectin from, VII, 1099; X, 1534
Penicillium, infection by, II, 369; III, 530,
 597, 599; V, 307, 505, 509; VI, 856;
 VII, 1078; VIII, 895; IX, 312, 659;
 X, 354, 355, 361, 363, 1232, 1233
 picking, VI, 858; VII, 725; IX, 200, 312

SUBJECT INDEX

- Citrus, fruit (continued)—**
- piercing moths, X, 1422
 - production figures, VIII, 926; IX, 701
 - pulp in dairy rations, IX, 1507
 - rind—
 - breakdown, V, 97; VIII, 186; IX, 208
 - colour, VIII, (1164); X, 1120
 - set, soil moisture and, X, 1119
 - storage, I, 108, 205, 312; III, 90, 262, 538, 598, 601, 602; IV, 481, 675; V, 307, 502-505, 731, 736; VI, 214-219, 406, 407, 597-599, 952, 953; VII, 433, 492, 770, 1052, 1077, 1078, 1080; VIII, 280-282, 581, 587, 895, 1260, 1293-1298, 1367; IX, 312, 578, 659, 1060, 1466-1470, 1472-1475, 1482; X, 352-363, 738, 1231-1234, 1518
 - tasting, X, 633
 - thinning, IV, 613; VIII, 173, 174, 180
 - transport, VII, 1077
 - utilization in war, IX, 1328
 - vitality test, VII, 433
 - vitamins in juice, *see* fruit, ascorbic acid
 - volatile products, *see* emanations from wastage, *see also* storage, III, 538, 597; IV, 678; V, 504; VI, 215-218, 597, 966; VIII, 1295; IX, 312; X, 362, 363, 645
 - waste as fertilizer, IX, 1340
 - wrappers, IV, 677; VI, 407; VII, 1062; VIII, 281, 1260; IX, 1482; X, 362, 363, 1234
 - fruiting, I, 83; III, 537; VIII, 808, 1128
 - fumigation, II, 53; IV, 110, 440, 618, 619; V, 100-104, 449, 451; VI, 148, 864; VII, 169, 731, 986; VIII, 813, 815, 816; IX, 209, 211-213, 585, 1353, 1358
 - gall wasp (*Eurytoma sellis*), V, 402; VI, 867; X, 650
 - gas storage, *see* fruit storage
 - genetics, IX, 194, 195, 567
 - germination of seed, III, 367
 - green manuring, V, 93; IX, 199; X, 637
 - grove conditions and maturity of fruit, IX, 565
 - growing—
 - in tropical Africa, acclimatization problems, VI, 136
 - in Algeria, X, 629
 - on the Amalfi coast, Italy, V, 84
 - in arid sub-tropics of U.S.S.R., VII, 429
 - in S.E. Asia, II, 45
 - in Australia, research on, IV, 250; V, 667, 668
 - in Berri irrigation area, S. Aust., V, 87
 - in Brazil, VII, 959
 - in British Guiana, IV, 426
 - in California, I, 363; VI, 541; VII, 427; IX, 186-188
 - on Caspian coast, difficulties of, X, 1117
 - in Ceylon, VII, 150; IX, 564, 1334
 - in China, history and distribution of types used in, V, 666
 - in Crete, reasons for decline, IX, 1330
 - in dry zone, Minneriya, Ceylon, IX, 564
 - in Egypt, VII, 705
 - in Formosa, importance of *C. tachibana* to, II, 47
 - in the Gold Coast, X, 1407
 - in Hawaii, V, 256
 - in India, varieties used for, IV, 606; VII, 960; VIII, 1125, 1126
 - Citrus, growing (continued)—
 - in Italy and Sicily, I, 362; III, 212, 214, 215, 529
 - in Jamaica, V, 86, 670
 - in Japan, II, 45; III, 532; VI, 823, 824
 - in Lower Rio Grande Valley, Texas, III, 370
 - in Madras, work on, VIII, 1357; X, 190
 - in Malta, IX, 563
 - manual, I, 217
 - in Mediterranean countries, I, 170
 - in Murrumbidgee Irrigation Area, VI, 852
 - in New Zealand, III, 213; VIII, 170
 - in Palestine and its problems, I, 363; II, 156; IV, 103; VI, 539; VIII, 523-526, 536; IX, 189, 190, 1328, 1329; X, 626
 - in Poedjon district, Java, X, (1423)
 - in pots in U.S.S.R., VIII, 172
 - in Queensland, II, 48; VII, 426
 - in Sahara, VIII, 522
 - in sand cultures, VIII, 947
 - in South Africa, I, 217; III, 531; VII, 704
 - in South Australia, IX, 1326
 - in Southern Rhodesia, *see also* investigations at Mazoe, IV, 425; V, 262; VIII, 803
 - in Turkey, V, 83
 - in Ukraine, VIII, 804
 - in U.S.A., X, 628
 - in U.S.S.R., II, 46; X, 627
 - in Victoria, Aust., V, 85
 - growth—
 - affected by deficiencies, III, 218
 - affected by pH, VIII, 176; IX, 1336; X, 1413
 - affected by seed X ray treatment, V, 258
 - in budded trees and those from cuttings, X, 1118
 - period in S. California, VII, 714
 - potassium and, VII, 162
 - gummosis, *see also* Citrus *Phytophthora* spp., II, 169; IV, 108; V, 98; VI, 135, 859, 860; VII, 448, 981; IX, 579
 - gypsum and, V, 93
 - habitat, I, 266
 - hard fruit, boron for, VIII, 1154; IX, 1341
 - and HCN, *see* fumigation
 - Heliothis armigera* pest, VIII, 1163
 - hybridization, II, 158; III, 366; V, 9; VI, 135; VII, 429; IX, 964, 965, 1331
 - incompatibility, stock: scion, VI, 831
 - indolylacetic acid aids rooting of cuttings, VIII, 631
 - insects, *see also* pests, III, 377, 540; VII, 959
 - inverted trenching, IX, 1341
 - investigations—
 - at Acireale, Sicily, III, 82
 - at Burnihat, Assam, X, 1554
 - at Griffith, N.S.W., IV, 250; V, 668
 - at Kodur, Fruit Res. Stat., VIII, 1357; X, 190
 - at Mazoe Exp. Sta., III, 528; VI, 995; VII, 786; VIII, 1138, 1155, 1163; X, 773
 - in Sicily, III, 82, 214, 215
 - in Trinidad, II, 367
 - iron deficiency, III, 218; IX, 1341; X, 193
 - irrigation, I, 176, 372, 373; III, 371, 372; IV, 431, 432; V, 262, 264, 443, 444; VI, 145, 846, 847; VII, 164, 436, 717, 969; VIII, 177, 178, 528, 529, 1146; IX, 564, 973; X, 203
 - Italia agricola*, special number on, III, 212
 - juvenile characters in clones, IX, 567
 - layering, II, 162

SUBJECT INDEX

- Citrus (*continued*)—
 leaf—
 composition, I, 268; V, 96
 mesophyll collapse, VII, 156
 morphology, I, 371
 stomata on, I, 370
 lime and, V, 92, 261
 lime effect on composition, III, 373
 little leaf, I, 377
 longevity, X, 1408
 magnesium deficiency, *see also* bronzing, IX, 575, 576, 1341, 1342
 mal secco, V, 678; VII, 729; VIII, 1133, 1134; IX, 978
 manganese deficiency, III, 218; VIII, 1142; IX, 976, 1341; X, 192, 1122
 manuring, I, 80, 176, 177, 373, 374; II, 52, 276; III, 539; IV, 256, 431, 614, 615; V, 85, 92, 93, 261-263, 266, 434, 445, 668, 674; VI, 144, 842; VII, 157, 162, 163, 437, 438, 721-723, 970; VIII, 179, 535, 1138, 1140-1142, 1229; IX, 190, 571, 572, 589, 1334, 1335, 1520; X, 201, 202, 635, 1121, 1127
 marl chlorosis and frenching, IX, 1341
maxima as rootstock for grapefruit, IX, 566
 Mazoe plant pathologists' report for 1936, VIII, 1155
 mealy bug (*Pseudococcus citri*), V, 271; VII, 449; VIII, 193, 813; X, 552, 1581
 Mediterranean fruit fly (*Ceratitis capitata*), on, V, 256; VI, 149, 555
 melanose (*Phomopsis citri*), V, 453; IX, 580; X, 1128
 mesophyll collapse in leaf, VII, 156
 Mitchurin's breeding methods for, VII, 429
 mites, V, 454; VIII, 190, 191, 1162; IX, 215, 583, (1355); X, 1132
 moisture control in orchards, II, 165
 mottle leaf, IV, 107, 439; V, 95, 268, 446, 447; VI, 143, 551, 848-850; VII, 168, 444, 446, 978-980; VIII, 183, 184, 532, 533, 811, 1153; IX, 201, 202
 mould control, *see also* Citrus, *Penicillium* infection by, III, 599, 600; V, 307, 509; VI, 217; VIII, 188
 mulching, VII, 971
 mussel scale (*Lepidosaphes pinnaeformis*), VII, 985; VIII, 538, 812; IX, 209, 218, 1352; X, 648
 mycorrhiza, V, 438; VI, 840
 nematode (*Tylenchulus semipenetrans*), VII, 446; X, 649
 nitrogen—
 assimilation, X, (1136)
 deficiency, IX, 1341
 supplies for, V, 263; IX, 571, 572
 nucellar embryony, *see* polyembryony
 nurseries in Sicily, III, 215
 nursery technique at Kodur, VIII, 1357; X, 190
 nutrition, *see also* manuring, III, 81, 373; IV, 614, 615; V, 261, 262; VI, 542, 544
 oils, *see* essential oils
 oil sprays for, VI, 866
 oleocarpa, VIII, 1126
 origin of Japanese, VI, 823, 824
 origin of word agrume, X, 189
 in Palestine, war plans, IX, 1328, 1329
 parthenocarpy, IX, 1332
 pectin in vegetative parts, VII, 716
 pests, IV, 304; IX, 209, 210, 563, 583, 1349; X, 1263
 pests in Leeward and Windward Islands, X, (1423)
 Citrus (*continued*)—
 pH affects growth, VIII, 176; IX, 1336; X, 1413
 phosphorus—
 content of flowers, fruit and leaves, VI, 544; IX, 571, 572
 in nutrition of, IV, 614; VI, 542, 544, 545; VIII, 828; IX, 571, 572
 photosynthesis, VIII, 806
 physiological gradients, V, 440
Phytophthora spp. on, *see also* gummosis, II, 169; V, 98, 679; VI, 135, 553, 859, 860; VII, 448, 981
 plant protection in São Paulo, X, (1136)
 planting errors, V, 436
 planting and maintenance, X, (1136)
 pollen morphology, V, 435
 pollination, VI, 550; X, (1136)
 polyembryony, I, 75; II, 159, 160; VI, 364; VII, 153; VIII, 807; IX, 560
 polygamy, III, 86
 potash manuring of, II, 51
 potassium—
 deficiency, VII, 162
 in leaves, fruit, flowers and shoots, VII, 157; IX, 571
 propagation—
 costs in Florida, VI, 361
 throughout the world, X, 630
 propagation, *see also* Propagation, citrus and Citrus, budding, cuttings, etc., I, 366, 368; II, 51, 161; III, 9, 137, 215, 532; VII, 152; IX, 568
 propagation—
 clonal variation a factor in, IX, 567
 in Japan, III, 532
 nurseries, *see* Citrus nurseries
 polyembryony a factor, *see* Citrus polyembryony
 seedling variation a factor, III, 368
 by solar propagator, I, 368
 stock:scion interaction, VI, 831; IX, 566
 by twig grafting, IX, 967
 vegetative seedlings, *see* Citrus polyembryony
 pruning, II, 364; IV, 104; VI, 139, 548, 827; VII, 724; VIII, 1128; IX, 580
 psorosis, IV, 617; V, 448; VIII, 1148, 1149; IX, 579, 979
Pyrausta nubilalis, a pest of, IX, 219
 red-fleshed hybrid, VIII, 172
 red mite (*Paratetranychus citri*), VIII, 1162
 red spiders, VI, 554; IX, 1350
 respiration under fumigation, II, 53
 renovation, I, 375; VII, 163
 reshni, VIII, 1126
Rhizoctonia damping off in, VI, 855
 ringing, I, 82; III, 87, 88; IV, 105, 106, 257, 258; V, 94; VI, 138, 549; VII, 439
 root—
 aeration, VII, 438
 crowns, swelling of, V, 436
 exposure, VII, 960
 pruning, VII, 160
 roots, I, 78; II, 169; III, 216; IV, 428; V, 436, 438, 669
 rootstocks, I, 173, 265, 363, 366-368; II, 275, 367; III, 318, 368, 369, 532; IV, 103, 168, 253, 254, 430, 608-610; V, 90, 256, 257, 679; VI, 134, 135, 362, 541, 831-834; VII, 150, 154, 711; VIII, 307, 526, 1136; IX, 197, 560, 562, 566, 568, 569, 961, 967, 968, 1536; X, 632, 1115, 1270, 1410-1412, 1571

SUBJECT INDEX

- Citrus (*continued*)—
 rot, stem end, II, 206
 rust mite (*Phyllocoptes oleivorus*), VIII, 190; IX, 583; X, 1132
 sanitation experiment, IV, 263
 scab (various), III, 224; V, 452; VIII, 1159; X, 1129
 scales, II, 53; III, 539; IV, 110, 440, 441, 618, 619; V, 100-104, 451, 455; VI, 146, 147, 367, 862-865; VII, 169, 730, 985; VIII, 538, 539, 813, 1160; IX, 209, 212, 214, 218, 583, 584, 586, 1351, 1352; X, 646-648
 scaly bark, *see* psorosis
 scion influence, IV, 429
 seed—
 beds, disease prevention, VII, 166
 germination, III, 367
 treatment with X-rays, V, 258
 viability, X, 191
 seedlessness, VI, 363, 550, 829
 seedlings—
 over-wintering, IX, 573
 propagation of hybrid, IX, 1331
 stem and tip blight, VI, 553
 variation in, III, 368; VII, 153
 vegetative, *see* polyembryony
 selection, *see also* bud selection
 selection, use of mentors in, IX, 969
 selenium absorption by, VIII, 1139; IX, 215
 silicate manuring, IX, 589
sinensis—
 Osbeck var. *rugoso-dulcis*, var. nov., VIII, 1126
 photoperiodicity and flowering hormone in, IX, 7
 stomata in, VI, 841
 snow scale (*Chionaspis citri*), V, 455
 soil—
 alkaline, fertilizers for, VI, 842; VIII, 529
 moisture—
 and fruit set, X, 1119
 and fruit size, VI, 844
 and irrigation, II, 165; VII, 969
 and wind effects, VIII, 1146
 pH for healthy growth, *see* pH
 salinity causes defoliation, VI, 853
 temperature—
 and growth, VI, 853
 and seed germination, III, 367
 soils, I, 80; II, 165; III, 534; IV, 614; V, 264; IX, 1334
 sooty blotch (*Gloeodes pomigena*), III, 375; V, 450; X, 643
 spray damage, I, 269; V, 680; VIII, 815; IX, 216
 spray residues in, V, 105; IX, 586, 1354
 spraying, I, 269; III, 376; IV, 109, 261, 439; V, 101, 105, 270, 680; VI, 556, 866; VII, 168, 442, 444, 732, 978-980, 982, 984; VIII, 811, 815, 1139; IX, 209, 210, 214-216, 580-584, 1337, 1348, 1352, 1354, 1355; X, 207, 641, 646, (648), 1128-1133, 1419
 standardization by propagation methods, III, 137
 stem end rot, II, 206; III, 374, 599; V, 453, 509; VI, 217; VIII, 895
 stem incisions, VII, 160
 stock:scion interaction, I, 173, 265; VI, 831; VII, 154; IX, 566
 stomata, I, 370; VI, 841
 sunburn, VII, 442
 Citrus (*continued*)—
 superphosphate spraying to reduce acidity, IX, 1337
tachibana in Formosa, II, 47
 terracing for, VII, 165
 thorn morphology, V, 255
 thorniness, IX, 567
 thrips, IV, 262, 441; X, 1133
 tissues, recovery of HCN from, IX, 1353
 topworking, III, 535; VII, 712; IX, 1339
 transpiration, VII, 160
 trees, packing and lifting, X, 1134
trifoliata, utilization of fruits of, *see also* *Poncirus trifoliata*, I, 376
 turgor affected by root pruning, etc., VII, 160
 twig grafting, VII, 967
 types, elimination of poor, III, 84
 varieties—
 influence of frost on, VIII, 531
 studies of, VI, 359; VII, 706, 707; VIII, 526, 1125, 1126
 vein chlorosis, IX, 1341
 virus disease in ?, III, 536; IV, 617; V, 678; VIII, 1148
 water—
 deficit in, VII, 718
 relations, IV, 432
 waterlogging of, VI, 852
 waterspot of, VIII, 186, 1151; IX, 208; X, 198, 1417
 weather effect on, IV, 612
 white louse of, V, 455
 wind effect on, VIII, 1145, 1146
 windbreaks for, IV, 433, 611; VI, 140-142; VII, 726, 977; VIII, 185, 1145
 wither tip (*Colletotrichum gloeosporioides*), VI, 861; VIII, 895
 world production and trade, X, 630
 X rays—
 for estimating frost damage, VII, 974
 for grading fruit, VII, 159
 xyloporosis in, IV, 616; VI, 366; VIII, 1152
 yields, III, 83
 young forms, I, 365
 spp., the Yuhikitsu (*Citrus oleocarpa*), VIII, 1126
 zinc—
 deficiency, *see also* Citrus trenching, IX, 575, 1341; X, 192
 salts for, *see also* Citrus mottle leaf, VIII, 182
Cladosporium—
fulvum, *see* Tomato leaf mould
herbarium—
 causes fig spot, VIII, 1049
 causes green spotting in cucumbers, IX, 523
 on hop, VI, 518
Clasterosporium carpophilum on stone fruit, X, 544
Clausena lansium, VI, 385
 Clementine, *see* Orange, Clementine
Clidemia hirta weed, biological control, VII, 1004
 Climate—
 and coffee, V, 465; VII, 749
 and deciduous fruit production, VII, 15
 and nutrition in vines, VII, 50; VIII, 1011
 and tropical fruits, VII, 755
Clivina rugithorax, a strawberry pest, X, 557
Clostridianum pasteurianum in canned pineapple, X, 1530
 Cloth house culture, IX, 1292; X, 173, 1106

SUBJECT INDEX

- Clove—
 anatomy, X, 694
 borers in, VII, 199
 industry, VI, 915; VII, 200
 nursery production, X, 695
 seed germination, IX, 1024
 in Sumatra, III, 406
 in Zanzibar, I, 186; VIII, 1224; IX, 1543
- Clover—
 pests and diseases, VIII, 724; IX, 513
 as strawberry eelworm host, VIII, 749
- Club root (*Plasmodiophora brassicae*), IV, 403;
 V, 72, 644; IX, 1273
- Coal—
 gas, source of ethylene, IX, 1273
 tar, kerosene for seed and cuttings' treatment,
 V, 145
- Cobalt effect on plants, VIII, 649
- Cobnut—
 cultivation, VIII, 434
 in Italy, X, 89
- Coca, I, 187; II, 181; VIII, 899
- Coccids—
 on Black Sea coast, IX, 218
 on citrus, *see* Citrus scales
- Coccomyces hiemalis*, V, 604; VIII, 446
- Cochin-goraka (*Garcinia xanthochymus*), VII, 466
- Cockchafer, tree pest in Latvia, IX, 102
- Cocoa, *see also* Cacao—
 Res. Stat. Tafo, Gold Coast, 1st. A.R. 1937/8,
 IX, 699
 world production, IX, 700
- Coconut—
 in Andaman Island, III, 249
 beetle, *see* rhinoceros beetle
 black beetle pest, VII, 222
 blight, shading prevents, VIII, 1241
 breeding, IX, 642
 bronze leaf wilt of, VIII, 261; X, 710
 bug, the green (*Amblyptela cocophaga*), V, 487
 caterpillars, III, 572; IV, 656
 cover crops for, VI, 929
 diseases—
 in New Guinea, VIII, 260; X, 1501
 connected with soil conditions, X, 710, 1501
 related to lightning, III, 251
 drought effect on, II, 193; IV, 654; V, 488
 dwarf, III, 250; VI, 929; IX, 289; X, 1499
 explosive used in cultivation, X, 711
 fencing for, VIII, 876
 field experiments, VIII, 257
 groves, maintenance of, IX, 290
 growing—
 in Brazil, V, 133
 in British Guiana, I, 184
 in British Solomon Islands, V, 293
 in Ceylon, investigations on, II, 286; III,
 248; IV, 284, 651; VI, 987; IX, 1528, 1529,
 (1544)
 in Jamaica, IV, 652; X, 710
 in Madras, VIII, 1354
 on Malabar coast of India, VII, 471
 in Malaya, I, 402; III, 250; IV, 653; VII,
 760; IX, 289
 in Mysore, II, 421; IV, 283
 in New Guinea, VII, 220
 in the Philippines, VI, 392
 in Seychelles, IV, 651
 in Western Samoa, causes of decline in,
 VIII, 1184
 in Zanzibar, IX, 641
 harvesting, I, 402
- Coconut (*continued*)—
 husk ash as fertilizer, V, 140; VI, 391, 930
 husks, use in cultivation, X, 712
 inflorescence, VIII, 1239
 irrigation of dwarf, VI, 929
 lalang grass affects yield of, IX, 291
 leaf miner (*Promecotheca* spp.), III, 114;
 VII, 473; X, 297
 the Makapuno, VIII, 255
 manuring, III, 408; IV, 653; V, 134; VII,
 760; VIII, 259, 1354; X, 1500
 nursery management, VIII, 256, 258
 nut—
 fall, premature, X, 296
 shape:seedling growth, IV, 125
 nutrition, *see also* manuring, VIII, 1240
 oil—
 compared with whale oil, X, 760
 pyrolysis of, VII, 515
 studies on, VII, 515; VIII, 295; IX, 1074;
 X, 401
Oryctes pest of, VII, 221; VIII, 553; X, 298
 pests, II, 405; V, 293; VII, 472
 pests in New Caledonia, VII, 472
 pollination, VIII, 1239
 rat damage to, V, 292; X, 713
 res. scheme Ceylon A.R. (various) 1935-1939,
 VI, 987; IX, 1528; 1529, (1544); X, 1563
 rhinoceros beetle (*Oryctes* spp.), VII, 221;
 VIII, 553; X, 298
 root growth, II, 404
 the San Blas, III, 113
 seed selection, III, 409; VIII, 256; IX, 641,
 642
 seedling growth:nut shape, IV, 125; VIII,
 256, 258
 shading young plants, VIII, 1241
 shell—
 dry distillation, X, 400
 used for charcoal, V, 320; X, 1256
 soil conditions and nut fall, X, 296
 soils and disease, X, 710, 1501
 spike moth (*Tirothaba trichogramma*), V, 721
 storage, II, 204; VIII, 899
 tree hopper (*Sexava* spp.), IX, 643; X, 1502
 uniformity trial, V, 720
 variations in, IV, 284; V, 719
 water as coagulant for latex, X, 406
 weed control, X, 1503
 weight:meat ratio, IV, 655; V, 719
 wilt diseases, V, 488
 yield, nutrition determines, VIII, 1240
 Zygaenid moth (*Artona catoxantha*), IX, 1435
- Cocos nucifera*, *see* Coconut
- Coco-yam (*Colocasia* or *Alocasia*), X, 249
- Codling moth (*Carpocapsa pomonella*), III, 344, 345;
 IV, 72, 73, 229, 230, 394, 570; V, 621-628;
 VI, 95-97, 310-313, 497, 498, 755, 759;
 VII, 73, 76-78, 362, 654, 659, 660, 908;
 VIII, (467), 724, 748, 755, 763, 765, 1059,
 1060, (1072); IX, 111, 483, 498, 874, (1260);
 X, 121, 996-1000, 1018, 1270, (1378)
- Coffea arabica*—
 and Bourbon varieties, comparison of, X, 1448
 for breeding purposes, VII, 455
 climate affects, VII, 749
 cuttings, growth substances and, VIII, 1206
 field experiments, VIII, 231
 growing, *see also* Coffee growing
 growing—
 in Belgian Congo, IV, 622; VII, 1018
 in Cameroons, VI, 375

SUBJECT INDEX

- Coffea arabica*, growing (continued)—
 in Hawaii, work of experiment station on, VI, 377
 in Tanganyika, III, 237, 238, 552; IX, 1395
 in Uganda, I, 388; X, 1585
 identification of different strains, IV, 637
 nutrition, VIII, 1210
 ovule and seed of, VI, 568
 photosynthesis, VII, 1019, 1020
 pruning, VII, 1021
 root investigations, V, 125, 286; X, 1453
 as rootstock, VII, 456
 selection, VII, 747; IX, 1395
 sports, VIII, 559
 yield variation, VIII, 1211
- Coffea robusta*, see Coffee robusta
- Coffea* spp., in Madagascar, classification of wild, IX, 248
- Coffee**—
 baskets, VI, 907
 beans, defective, VIII, 233
 bee flora on estate, X, 691
 berry preparation for market, X, (765)
 black bean, VIII, 1212, 1361
 on bog land, II, 387
Botrytis disease, IX, 1402
 Bourbon and *arabica*, a comparison, X, 1448
 branch grafting, X, 1452
 breeding, VI, 164; VII, 455
 budding, V, 285
 bug (*Antestia faceta*), III, 241; VIII, 857
 by-products, I, 420
 capsid, VIII, 857
 cattle manure for, VII, 1022
 chlorosis, V, 467
 chromosome number:stomata relation, IX, 1397
 climate and, V, 465; VII, 749
 conuga, IX, 1396
 cover crops, II, 176
 curing, *see* processing
 cuttings, VIII, 558, 856, 1206; IX, 621, 1023, 1399; X, 261, 690, 1179, 1451
 cytology, IV, 448; X, 689
 dieback, V, 467, 695
 diseases, IV, 451; V, 696; VII, 195, 458; VIII, 232; IX, 1424
 ecology, V, 465
 effluent, IX, 670
 experiments, *see* research
 extract, II, 300
 fermentation, *see* processing
 flower bud structure, IX, 1020
 fringed scale (*Asterolecanium*), III, 240
 fruit ripening, VIII, 1208
 genetic work in Brazil, IX, (1398)
 grafting, I, 92; II, 385; III, 392; IV, 638; V, 285; VIII, 561; IX, 1400, 1401; X, 1452
 green manuring, I, 383; II, 176; X, 262
 growing—
 in the British Empire, IV, 272
 in Colombia, X, 1178
 in Costa Rica, X, 1178, 1448
 in French possessions, VIII, 229
 in India, IV, 307; VII, 191
 in Indo-China, IX, 623
 on the Ivory Coast, IX, 249, 1023
 in Jamaica, X, 1178
 in Java, VII, 191; VIII, 1204
 in Kenya—
 cultural operations, VIII, 1340; IX, 622, 1394
 investigations, VII, 192, 746; X, 1179
 prices since World War, VII, 193
 in Madagascar, III, 554
 manuals on, IV, 307; VI, 980; VIII, 1340
 in Mysore, history of, VIII, 228
 in Puerto Rico, X, 1449
 in shade, I, 383; III, 105, 553; IV, 124; V, 692, 693
 in South Africa, V, 464
 in Sumatra, VIII, 842
 in Tanganyika, native production on Kilimanjaro, VI, 908
 throughout the world, I, 91; IV, 311
 in Uganda, VIII, 1374
 growth—
 and seasonal measures, III, 552
 and solar radiation, X, 1454
 substances for rooting, VIII, 558, 1206; X, 438, 1179, 1451
 and yield relationships, X, 265
 hybridization, *see* breeding
 interclonal planting, VIII, 1208
 interplanted in rubber, IX, 1418
 leaf—
 crop ratio, X, 258
 disease (*Hemileia vastatrix*), VII, 1023; X, 1571
 functions, X, 259
 liquoring terms, X, 404
 manuring, I, 383; II, 176, 388; VII, 1022; VIII, 563, 1210; IX, 625, 1021; X, 440
 mealybug (*Pseudococcus kenyae*), X, 438, 1182
 mulching, VIII, 857
 napier grass as cover for, X, 262
 nursery practice, VI, 907
 nutrition, VIII, 1210
 ovule of *arabica*, VI, 568
 pests, V, 696; VII, 195, 458, 748; VIII, 232, 857, 899; IX, 1403
 phthiriosis of, IV, 451
 pollen germination, VIII, 560
 pollination, VI, 906
 prices, VII, 193
 processing—
 biochemical reactions during, X, 1537
 curing in cherry without washing, X, 403
 fermentation and drying, VI, 165
 from start to finish, VI, 968
 stream pollution by, IX, 670
 by wet method, VII, 1100; IX, 669
 propagation, *see* vegetative propagation
 pruning, V, 124, 694; VI, 570; VII, 1021; VIII, 1209; IX, 624; X, 692, 1181, 1455
 publications on, I, 91; II, 70; IV, 311; VI, 980
 quality in, VI, 376; VIII, 1213; IX, 622; X, 403
 quality in Kenya, IX, 622
 rainfall and yields, X, 264
 research—
 at the Balehonnur Experiment Station, III, 239
 Brazilian, VIII, 230; IX, (1398)
 Bukalasa experiments, X, 1180
 Committee, E. Africa, Inter-territorial, IX, 1518
 in Hawaii, VI, 377; IX, 1534
 in Mysore, II, 283; III, 239, 550; VIII, 1361
 at the Scott Agricultural Laboratories, Kenya, X, 1179

SUBJECT INDEX

- Coffee, research (*continued*)—
 Station at Lyamungu, Moshi, Tanganyika,
 work and A.R., **V**, 690; **VI**, 161, 1003;
VIII, 1371, 1372; **IX**, 621
 in Tanganyika, field experiments, **VIII**, 231
 yield variability affecting, **VIII**, 1211
 robusta, **I**, 92; **V**, 691; **X**, 1585
 root—
 diseases, **IX**, 1424
 growth, **III**, 551; **IV**, 450; **V**, 125, 286;
 IX, 250, 252; **X**, 1453
 rootstocks, **I**, 185, 389; **VII**, 456; **IX**, 251
 rubber as shade tree for, **X**, 688
 rust, **IV**, 452
 scorch, **VII**, 749
 seed—
 of *arabica*, **VI**, 568
 disinfection, **VI**, 163
 garden at Bangelan, **III**, 392
 storage, **X**, 263
 selection, **II**, 175; **III**, 392; **VII**, 747; **VIII**,
 856, 1204; **IX**, 1023, 1395
 shading, **I**, 383; **III**, 105, 553; **IV**, 124;
V, 692, 693; **VII**, 194, 457; **VIII**, 858;
IX, 1022; **X**, 688, 1180, 1456, 1585
 soil—
 erosion, **VIII**, 562
 fertility, **VI**, 569; **VIII**, 856
 in Tanganyika, **VIII**, 1205
 spraying, **III**, 555; **IX**, 626
 stem borer (*Xylotrechus quadripes*), **VII**, 1024
 stomata:chromosome number, **IX**, 1397
 stomatal movement in *arabica*, **VII**, 1020
 tap roots, effect of bent, **IX**, 252
 thrips, **VI**, 378; **X**, 1183
 topworking, **III**, 106
 tree excavation, **X**, 1319
 vegetative propagation, *see also various
 processes*, **I**, 389; **II**, 386; **III**, 392; **IV**,
 449; **V**, 466; **VI**, 162; **VII**, 191, 192;
IX, 251, 621, 1023; **X**, 260, 1450, 1451
 white stem borer (*Anthonomus leuconotus*),
VII, 459
 wild species in Madagascar, **IX**, 248
 world production, **IX**, 700
 yield, factors affecting, **VIII**, 1211; **X**, 264,
 265
- Cola**—
acuminata, vegetative propagation, **IV**, 119
nitida, cotyledon colour in, **V**, 707
 spp., manual on, **V**, 747
- Colchicine**—
 effects on growth, various, **VIII**, 321, 628
 to get polyploids, **VIII**, 322, 945; **IX**, 373;
X, 458, 1112
- Cold** resistance, *see also Frost* resistance
Cold resistance—
 factors affecting, **VII**, 869, 870
 measurement of, **III**, 440
- Coleophora** pests, **VIII**, 1066; **IX**, (1260); **X**, 121,
 995
- Coleoptera** associated with deciduous fruits, **IX**, 115
 Collecting plants, methods of, **VI**, 617
- Colletotrichum**—
gloeosporioides—
 in citrus, **VI**, 861; **VIII**, 895
 in mango, **V**, 131; **VIII**, 250; **X**, 290
 in tropical fruits, **X**, 714
lagenarium in melon, **VI**, 749
lindemuthianum of dwarf bean, **VIII**, 770
 potato disease, **IX**, 1386
spinaciae, **X**, 593
- Colloidal suspensions**, **VIII**, 1067
Colocasia—
antiquorum, **VII**, 453; **VIII**, 860
esculenta, **VII**, 741; **VIII**, 849; **X**, 250, 721
 spp., edible, in Ceylon, **X**, 249
- Colorado agric. Exp. Stat. A.R.** 1938/9, **X**, (1589)
- Colorimetric tests**—
 for citrus species, **VI**, 360
 of tea-extract, **VIII**, 604
- Colour**—
 of apple fruit affected by cultural practices,
V, 366
 environment affects, in tomato and melon,
VIII, 139
 inheritance of flower, **VIII**, 362
 variation, genetics and chemistry of flower,
X, (1114)
- Colouring**—
 in apples, *see Apple*, colour
 apples after picking, **III**, 29; **X**, 917, 1333
 artificial, *see also Ripening*, **I**, 325; **II**, 279,
 371, 372; **III**, 128, 538, 600, 603; **IV**, 484,
 669; **V**, 155, 506, 507; **VI**, 25; **VIII**, 582,
 1367; **X**, 729, 730
 citrus, *see Citrus* fruit, colouring, artificial
- Colza oil plant**, **VIII**, 155, 798
- Commercial**—
 apple growing, **VII**, 1106
 flower forcing, **X**, 1260
 horticulture in U.K. and Eire, **IX**, (507)
 spirit manufacture, **VIII**, 903
- Compositae**—
 fertilizers affect essential oil content in, **VIII**,
 515
 a mildew of, caused by *Bremia lactucae*,
VIII, 481; **X**, 588
- Composition of foods**, **X**, 769
- Compost**—
 chemical studies on, **V**, 142
 making—
 an agricultural testament, **X**, 1259
 articles by Howard on, **VI**, 430
 book on, **I**, 422; **X**, 1259
 in East Africa, **VIII**, 1187
 in England, **VIII**, 701
 hot fermentation methods, **VI**, 431; **X**, (921)
 in Malaya, **VIII**, 547
 methods, **V**, 684; **VII**, 1002
 for rubber, **X**, 283
 in S. Africa, **X**, 1295
 in S. Rhodesia, **X**, 665
 sunn hemp for, **VIII**, 548
 for tea, **X**, 1444
 tea estate wastes for, **VII**, 1016
 town refuse for, **VI**, 642
 in tropics, **IX**, 229, 1006; **X**, 234, (921)
 propagation, **VII**, 267; **VIII**, 366; **IX**, 1086
- Concentrates**—
 fruit, **III**, 420
 in juice and wine making, **X**, 746, 747
- Conditioning** temperatures for stored fruit, **VIII**,
 1278, 1280
- Conductivity** influenced by tracheae, **II**, 20
- Confectionery**, sub-tropical fruits in, **IX**, 326
- Conference**—
 fruit juice—
 at Berlin, 1937, **VII**, 797
 at Long Ashton, **IX**, 1078
- Imperial Horticultural**, **I**, 109
- International Horticultural**, **I**, 110; **III**, 431;
V, 517; **VIII**, 929
- Pennsylvania State Horticultural Ass.**, **IV**, 310

SUBJECT INDEX

- Conference (continued)—**
 West Indian fruit and vegetable, IV, 146
 Western Nutgrowers' Ass., IV, 309
- Congo—**
 Belgian, cotton and coffee in, IV, 622
 Belgian, oil palm in, IV, 622; V, 291
- Congress, see Conference**
- Conifers**, propagation by cuttings, X, 5, 10-12, 802, 803
- Coniosporium mali**, IX, 99
- Coniothecium chromatosporum** on apple, X, 111
- Coniothyrium—**
diploidiella in vines, VI, 78
prunicolum, X, 543
wernsdorffiae on rose, IV, 421
- Conopia—**
exitiosa of peach, IX, 482; X, (563)
myopiformis of apple, IX, 867
- Conotrachelus nenuphar** as apple pest, IX, 1243
- Containers**, plant, root distribution in, V, 334
- Contarinia pyrivora**, V, 404; VII, 361; VIII, 450
- Contour planting**, X, 901, (1304), 1323
- Convolvulus arvensis**, weed, VIII, 829
- Cooling** of fruit in store, X, 315
- Co-operative Associations** in Canada, VI, 243
- Co-operative vegetable marketing**, VI, 245
- Copal**, IX, 330
- Copper—**
 damping off control, VIII, 744; IX, 476
 deficiency symptoms, II, 241, 340; VII, 371; IX, 467, 575, 845, 1341; X, 33, 1351
 effect on plant growth, VII, 1368; VIII, 649
 dust and spray, distribution determination, IV, 566
 dusts as fungicide, VI, 335; VIII, 760
 fungicides, *see* Fungicides, copper
 -lime dust and fruit set, VIII, 760
 oxide, dusting seed with red, IV, 401
 in plant nutrition, IX, (1133)
 poisoning in glasshouse, VI, 107
 residue on sprayed loganberries, VII, 672
 resinate for treating paper pots, X, 1034
 spray, harmful effects, VI, 83
 sulphate against damping off, VIII, 744
- Copra—**
 in Ceylon, IV, 651; VII, 775
 deterioration, VIII, 607; X, 399
 driers and drying, VI, 413, 971; VII, 514, 776; VIII, 1330; X, 397, 1539, 1540
Ephestia cautella infestation, X, 398
 in Fiji, IX, 337
 harvesting for, I, 402
 improvement, I, 183; II, 194
 insect damage to, VIII, 899
 in New Guinea, IX, 671
 preparation, *see also* driers, IV, 651; VI, 412, 971; IX, 671
 in Seychelles, IV, 651
 weight compared with weight of husked nuts, V, 719
- Cordeauxia edulis**, X, 1166
- Cordons**, apples, *see* Apple cordons
- Coriander** essential oil plant, VIII, 794
- Cork—**
 diseases, II, 341; III, 184; IV, 352; V, 384; 385; VI, 294, 466, 596, 730; VII, 62, 63, 315, 323-326, 617-620, 878, 883, 885; VIII, 396, 397, 654, 655, 734, 735; IX, 91-93, 1056; X, 467, 471, 472, 958, 959
 oak, IV, 266; VIII, 663, 1181; X, 856
- Corn salad**, an oil plant, VIII, 797
- Coromandel Valley, State Exp. Orchard**, VII, 26
- Corticium—**
areolatum on citrus, X, 641
galactinum on apple, X, 541
- Coryneum—**
beijerinckii on peach and other stone fruit, VII, 649; VIII, 747
 disease of chestnut, VII, 72
- Corypha cerifera**, carnauba wax from, VIII, 254
- Cosmic rays**, VI, 979; IX, 1126
- Cosmopolites sordidus** on banana, V, 492; IX, 647
- Cossus cossus**, a citrus pest, VII, 983
- Costa Rica, Minist. Agric. A.R. 1938**, IX, 1530
- Costings**, agricultural, V, 5, 163, 564; IX, 404
- Costs**, methods of reducing orchard, IV, 514
- Costus** shoots, polarity in, III, 76
- Cotoneaster**, vegetative propagation of, IV, 100
- Cotton—**
 boll worm (*Heliothis armigera*) as citrus pest, VIII, 1163
 diseases and pests, VIII, 724
 (various subjects), I, 273, 274; IV, 622; VIII, 155, 654
- Cotyledon colour in cocoa**, II, 71
- Couleur—**
 in black currants, VII, 890
 in grape vines, *see* Vine, coulure
- Couma guatemalensis** as source of chicle, V, 483
- Coumarin** from deer tongue leaves, VIII, 826
- Counter parasite, see Biological control**
- Court noué** disease of vines, *see* Vine, Court noué
- Covent Garden laboratory**, temperature control at, X, (383)
- Cover crop—**
Boga medeola as, X, 435
 for citrus, *see* Citrus, cover crops
 for coconuts, VI, 929
 for coffee, II, 176
 for deciduous fruits, III, 470, 471, 474; IV, 38, 39; V, 559; VI, 277-279; VIII, 697, 698, 700; X, 1325
 under irrigation, V, 559; VI, 929
 for peaches, VII, 850; X, 904
 in rotation with field crops, VII, 107
 for rubber, *see* Rubber, cover crops
 for soil conservation, VII, 107
 for tea, II, 384; X, 435
 in tropics, III, 382; VIII, 1188; IX, 1007
- Cowpea** as green manure, X, (1335)
- Crab apples—**
 American, III, 283
 Japanese flowering, IV, 17
- Crab**, crude oil prevents damage by, VIII, 552
- Cracking of fruits**, VI, 26, 27; VII, 648; IX, 853, 854; X, 953
- Cranberry—**
 cultivation—
 in Canada, V, 567
 in Holland, IV, 201; IX, 406
 in U.S.A., IV, 200; VII, 44; VIII, 421
 an edible variety of *Vaccinium*, III, 311
 false blossom disease, IV, 218
 fruit bud formation, VI, 704
 leaf drop, IX, 456
 mycorrhiza and nutrient needs, II, 35; III, 50; VIII, 1001
 processing and vitamins, III, 607
 storage, IV, 673; VII, 1071, 1072

SUBJECT INDEX

- Crataegus—**
- azarolus*, V, 164
 - mexicana*, IX, 795
 - pruinosa*, VI, 534
- Crete, decline of citron in, IX, 1330
- Cricket bat willow cultivation, VII, 529, 530; VIII, 657; IX, 752
- Cricket—
- greenhouse stone (*Tachycines asynamorus*), VII, 397
 - pest of strawberry (*Gryllus assimilis*), VIII, (467)
- Crimea, walnuts in, VIII, 1021
- Crinkle disease—
- of potato, VIII, 771
 - of strawberry, *see* Strawberry Crinkle
- Crocus*, karyological studies in, VIII, (1123)
- Cronartium* sp., disease of red currant, V, 222
- Crop—
- forecasting, II, 103; VI, 255
 - size affects storage, VIII, 584
- Cropping affected by—
- fertilizers, II, 234; IX, 455
 - thinning, II, 136
 - various factors, VI, 685; IX, 455
 - water supply, VIII, 11
 - weather, IV, 334; IX, 455
- Crotalaria*—
- junccea*, *see* Sunn hemp
 - spp. as green manure, VIII, 211, 546, 548, 871
 - uses of, in Brazil, V, 141
- Croton oil tree (*C. tiglium*), III, 243
- Crown gall (*Bacterium tumefaciens*, *Phytoponas tumefaciens*, *Pseudomonas tumefaciens*)—
- in apple, *see* Apple, crown gall
 - biochemistry of diseased tissue, X, 538
 - biological control unsuccessful, X, 107
 - in cherry, IX, 859
 - in citrus, III, 541
 - growth substances in, VII, 266; VIII, 941; X, 1617
 - on peach, X, 978
 - in pome fruits, X, 107
 - in raspberry, IV, 377; IX, 858
- Cryolite as insecticide, VIII, 452, (467)
- Cryptolaemus montrouzieri* a parasite of citrus pests, VIII, 817
- Cryptomeria*, effect of iron and manganese on, VIII, 650
- Cryptonol, a soil disinfectant, IX, 500
- Cryptostegia*, rubber content, V, 289
- Council of Scientific and Industrial Research Australia A.R. 1936/7-1938/9, VIII, 1343; IX, 691; X, 1270
- Council of Scientific and Industrial Research, Australia, work in 1926-36, VII, 524
- Council of Scientific and Industrial Research, Australia, laboratories and field stations, X, 1270
- Cubé or Haiari root, *see* *Lonchocarpus*
- Cucumber—
- acetate films for glass in forcing, X, 1063
 - affected by—
 - animal hormones, VIII, 633
 - HCN, IV, 243
 - light, VII, 929; X, 599
 - artificial lighting for, I, 3; III, 71; VI, 787; VIII, 1098
 - breeding, VI, 787
 - for canning, VII, 380
 - diseases, IX, 311, 915
- Cucumber (*continued*)—
- economics of supply, III, 354
 - experiments at Cheshunt, VIII, 116; IX, 1285
 - genetics, VIII, 131
 - green spotting, IX, 523
 - heterosis, IX, 522
 - manuring, II, 269; VIII, 470; X, 1381
 - morphological relations, V, 423
 - pests, VIII, 776
 - physiological disorders, IV, 242
 - picking for pickling, V, 647
 - for pickling, VII, 692
 - Pythium* damping off in, V, 648
 - root rot, VIII, 132, 1099; X, 1027
 - seed—
 - extraction, VIII, 1097
 - treatment, X, 597
 - soil heating for, VI, 787
 - storage, V, 422; IX, 305; X, 740
 - transpiration, X, 1061
 - tree (*Averrhoa bilimbi*), VII, 467
 - varieties, VI, 765; VII, 380
 - vernification, X, 1062
 - vines, V, 425
 - wrappers for, V, 422
- Cucurbitaceae*, powdery mildew (*Erysiphe cichoracearum*), VI, 749; VII, 895, 928
- Cucurbits—
- breeding, VIII, 130
 - disease incidence, water table effects on, X, 156
- Cultivated plants, origin of, X, (1304)
- Cultivation—
- clean versus sod mulch for apples, VII, 579
 - affects vine nutrition, VII, 54
- Cultivators, small, for horticulture, VI, 34
- Culture—
- sand, *see* Sand cultures
 - solutions, micro-elements in, VIII, 649
 - water, *see* Water cultures
- Cupressus* spp., as windbreak, VIII, 185
- Cuprous oxide—
- against damping-off, VIII, 744
 - as seed protectant, X, 1084
- Curcuma*—
- longa*, VI, 173; VIII, 1222; IX, 256
 - xanthorrhiza*, a medicinal plant in Java, IX, 258
- Currant—
- ancestors of cultivated, IX, 832
 - anthracnose (*Pseudopeziza ribis*), VI, 306; VIII, 443
 - black, *see* Black currants
 - borer moth (*Aegene tipuliformis*), VI, 94
 - breeding, *see also* Black and Red Currants, VIII, 53
 - classification of red, VIII, (715); X, 510
 - the creeping (*Ribis procumbens*), VII, 305
 - fruit bud formation, VI, 704
 - grape, *see* Vine, currants
 - growing in Missouri, X, 1339
 - in Holland, IX, 406
 - leaf scorch, IX, 94
 - pests, IX, 868
 - red, *see* Red currants
 - in U.S.S.R., VIII, 357, 410
 - varieties of red and black from New York, IX, 73
- Curry stuffs, III, 558; IV, 118
- Cucus grass, X, 1472
- Cuscuta* weed, VIII, 829
- Customs regulations in fruit trade, *see* Quarantine, plant

SUBJECT INDEX

- Cuttings—
 apple, *see* Apple cuttings
 begonia, VII, 137
 bilberry, VI, 712
 cacao, *see* Cacao cuttings
Camellia sasanqua, callus paring and rooting, VII, 413
 cassava, VII, 1012; IX, 1049
 chemical treatment of, *see* Growth substances
 citrus, *see* Citrus cuttings
 coffee, *see* Coffee cuttings
 composts for, VII, 267; VIII, 366; IX, 1066
 dahlia, VI, 125
 derris, VI, 373
 effect of root temperature on growth of lemon, VII, 713
Epigaea repens, VII, 414
 fruit tree, growth substances and, *see* Growth substances and fruit tree cuttings
 German experiments with apple, VII, 829
 hardwood, I, 66; II, 111, 113; V, 167; VIII, 2, 369
 hydrangea, VII, 139
 kaki, VII, 733
 leaf, II, 7; VI, 125, 702, 703; VII, 137, 139; IX, 440, 830, 831; X, 1161
 lemon, *see* Lemon cuttings
 moisture affecting rooting of, IV, 420
 Norwegian work on, IX, 43
 olive, I, 378; IX, 5
 of ornamentals, *see* Ornamentals, propagation
 papaya, VII, 990
 peach, VIII, 370
 pear, VIII, 673
 plum, IV, 27; VIII, 367
 for raising polyploids, VIII, 769
 propagation by, VIII, 647
 propagation by, in tropics, VI, 882
 raspberry, VI, 703
 response to light and temperature differs from that of seedlings, X, 1108
 root—
 carbohydrate and nitrogen effect on, VII, 733
 method of setting, VIII, 367
 rooting—
 affected by colour of glass placed over them, X, 1179
 affected by different factors, I, 66; III, 45, 294; IV, 26, 53, 367, 420; V, 11; VI, 4; VII, 438; IX, 175
 media, VII, 267; VIII, 366; IX, 1066
 rose, IV, 249; IX, 1316
 rubber, V, 482; IX, 1421
 of *Rubus*, leaf bud, VI, 702, 703
 softwood or herbaceous, II, 112-114; V, 345; VII, 827; VIII, 330, 366, 930; IX, 43
 stimulating substances for, *see* Hormones, and Growth substances
 tea, *see* Tea cuttings
 tomato, VII, 384
 treatment with chemicals, *see* Growth substances
 of tropical shrubs, leaf bud, X, 1161
 vine, *see* Vine cuttings
 warm water treatment, IV, 26
- Cyanamide*—
 as apple fertilizer, VIII, 696; IX, 814
 as weed killer, IX, (503)
- Cyanide* effect on tea and tea pests, IX, 1393
- Cydia*—
molesta, *see also* *Grapholitha molesta*, V, 629; VI, 1061, 1062; IX, 875; X, 1001, 1270
pomonella, *see* Codling moth
- Cydona japonica*, breeding, VIII, 50
- Cylinders, apple nutrition trials in, IV, 37
- Cylindrophora albedinis*, IV, 126, 474
- Cymbopogon* spp., IV, 491; V, 704; VII, 784; X, 310, 311
- Cynodon dactylon* weed, VIII, 829
- Cynometra* bark for leprosy, III, 107
- Cyperus esculentus*, an oil and forage plant, VIII, 522, 827
- Cyprus—
 agricultural legislation in, VIII, 659
 apple pests in, VIII, 1057
 carob tree cultivation, IX, 225
 Dep. Agric. A.R. 1937-1938, IX, (726); X, 433
 fruits, vines or vegetables, II, 354; IV, 153
 fungi, VIII, 921
 injurious insects in, VII, 653
 soil and water conservation, X, 40
- Cytogenetics, radiation and, IX, 379
- Cytological technique, IX, 378
- Cytology—
 apple, II, 19; IX, 773
 cell wall, IX, 377
 cherry, IX, (1184)
Coffea, IV, 448
 pear, IV, 518; IX, 773
Prunus, II, 323; III, 500; VII, 549
Rubus spp., IV, 49
 water relations of plant cells, IX, 380
- Dactylella ellipsospora* controls nematode, IX, 1381
- Dacus*—
ferrugineus, IX, 1432
oleae, IV, 578, 579
- Daffodil—
 early flowering, III, 363
 experiments at Kirtton, IX, 182
 forcing, VI, 809; VII, 416; VIII, 517; X, 1401, 1402
- Dahlia—
 bud development in mignon, IX, 184
 cuttings, VI, 125; IX, 175
 history of, VII, 138
 the modern, VI, 355
 mosaic, III, 365, 527
- Damar resin, IX, 330
- Damping off in various plants, III, 514; IV, 87, 401; V, 242, 648; VI, 327, 855; VIII, 221, 744; IX, 176, 476, 535, 617, 864, 1294; X, 1084
- Damson—
 cultivation, VI, 645
 fertilizers, IX, 69
 flowering dates, V, 179
 root growth, V, 176
- Datana integerrima*, X, 1371
- Date, *see* Date palm fruit
- Date Growers' Institute 15th A.R., IX, 692
- Date palm—
 Bayoud disease (*Fusarium albedinis*), IV, 474
 crosscut disease, VIII, 574
 cultivation—
 in Algeria, II, 195
 in Argentine, suggestions for, VI, 186
 in Palestine, II, 406; VI, 592
 in Queensland, VII, 474

SUBJECT INDEX

- Date palm, cultivation (*continued*)
 in S. Africa, suggestions for, **II**, 293
 in U.S.A., **VII**, 223; **IX**, 588, 644
 the Dairee, **IV**, 657
 decline disease, **I**, 294; **VI**, 394; **VIII**, 575; **IX**, 293
 the Deglet Noor, **I**, 294; **V**, 490; **VI**, 926, 927; **VII**, 761, 774
 diseases, **III**, 573; **IV**, 126, 474
 fruit—
 growth and composition, **V**, 490, **VI**, 926
 hydration, **VII**, 774
 ripening, **X**, 1148
 rot reduced by bunch thinning, **IX**, 292
 storage, **IX**, 655, 1520; **X**, 737
 thinning, **VII**, 761
 water injury to, **V**, 490
 growth substances used on, **IX**, 1436
 inflorescence blight (*Fusarium spp.*), **VIII**, 1242
 insecticides for use on, **V**, 491
 investigations at Sacaton, Arizona, **IX**, 217
 metaxenia in, **V**, 489; **VI**, 926, 927
 mycorrhizal habit, **X**, 1149
 pests, **X**, 1263
 pollination, **VI**, 926, 927; **VIII**, 877
 products, **VI**, 232
 in saline soil, **IX**, 1039
 soil disinfection for, **VI**, 394
 the Zagloul, **V**, 723
- Daylight, length affecting growth of plants, *see also*
 Vernalization, Photoperiodicity and particular plants, **III**, 379; **IV**, 417, 545; **V**, 245, 519, 665; **VI**, 1, 52, 112, 631, 632; **VII**, 268, 405, 804, 806, 858, 861; **VIII**, 125, 341, 342, 344, 1118; **IX**, 7, 13, 384, 385, 743, 907, 942-946, 1123, 1124; **X**, 29, 30, 305, 604, (847), 1056, 1077, 1108, 1111, 1126, 1171
- "The Death," due to root suffocation, **VII**, 319
- Debtors in Dutch East Indies, relief of, **X**, 1159
- Decane injury, **V**, 581
- Deer—
 control in rubber plantation, **X**, 1488
 tongue (*Trilisa odoratissima*) leaves, **VIII**, 826
- Deficiency—
 diagnosis, *see* Injection
 diseases of potato, **IX**, 897
 effect on stomata, **VII**, 813
 symptoms—
 boron, *see* Boron deficiency
 calcium, *see* Calcium deficiency
 copper, *see* Copper deficiency
 iron, *see* Iron deficiency
 magnesium, *see* Magnesium deficiency
 manganese, *see* Manganese deficiency
 minor elements, **X**, 1351
 molybdenum, **X**, 1351
 nitrogen, *see* Nitrogen deficiency
 phosphate, *see* Phosphorus deficiency
 potash, *see* Potassium deficiency
 sulphur, *see* Sulphur deficiency
 various, **VIII**, 692; **IX**, 389, 463, 845, 1291
 zinc, *see under* Zinc
- Defoliation, *see also* Foliation
- Defoliation—
 of apple affects root growth, **VI**, 664
 caused by calcium cyanamide, **V**, 191
 of citrus, **VI**, 853
 of egg plant, **III**, 358
 peach, artificial, **X**, 1331
 of tea, **II**, 67
- "Degeneration," in strawberry, **IV**, 149
- Dehorning in pears, **VIII**, 406
- Dehydration, *see* Drying
- Delaware agric. Exp. Stat. A.R. 1936/7-1938/9, **VIII**, (1378); **IX**, (726); **X**, 774
- Delia brassicae*, **X**, 1053
- Delphinium—
 cultivation, **VI**, 813; **X**, (188)
 seed storage, **II**, 361; **III**, 522; **VI**, 812
- Dematium pullulans* as test for growth substances, **VIII**, 340
- Demonstration plots, **III**, 144
- Denmark—
 apple varieties, **IX**, 38
 rootstocks in, **VIII**, 32; **IX**, 780
 vegetables in, **VIII**, 468
- Derris—
 chemical composition, **II**, 377; **V**, 57-59, 686, 687; **VI**, 81; **VII**, 177, 355, 482, 737, 997, 998; **VIII**, 463; **IX**, 1518, 1519; **X**, 240, 243, 1011
 cultivation and production, **III**, 36; **IV**, 124, 388; **V**, 686, 687; **VI**, 373, 565, 889-891; **VII**, 177, 482, 738; **VIII**, 213, 214, 216, 304; **IX**, 231, 233, 1380; **X**, 241, 242, 1432
 digest of literature on, **III**, 342
 as insecticide, **II**, 139; **III**, 207, 342; **IV**, 396; **V**, 229, 231, 237, 254, 414; **VI**, 499; **VII**, 97, 135, 395; **VIII**, 756, 757; **IX**, 234, 494, 879
 stored, insect pests of, **IV**, 577; **VIII**, 899
 varieties, **IV**, 231; **V**, 686, 687; **VI**, 81, 565, 888; **VIII**, 215, 217; **IX**, 231, 232; **X**, 242, 676, 1011
 wood anatomy, **VIII**, 838
- Detergents in spray control, **VIII**, 1071
- Deudorix epiphoras*, pest of litchi, **IX**, 284
- Deuterophoma tracheiphila*, lemon resistant to, **VIII**, 1133, 1134; **IX**, 978
- Development Commissioners, Lond., A.R. 1937/8-1938/9, **IX**, 693; **X**, 1568
- Devil's shoestring, *see* *Tephrosia*
- Devon, commercial horticulture in, **IX**, (507)
- Dewberry—
 oblique-banded leaf roller (*Cacoecia rosa-ceana*), **VIII**, 451
 rosette disease (*Cercospora rubi*), **VIII**, 96
 varieties, **III**, 166; **V**, 565; **VIII**, 712; **IX**, 441
- Dextrin—
 as emulsifier, **VIII**, 761
 from potato, **X**, 586
- Dextrose in preserved fruit and vegetables, **VIII**, 603
- Diachasmoides* spp. parasitic on fruit flies, **X**, 1373
- Diagnosis—
 by injection, *see* Injection
 leaf, *see* Leaf diagnosis
- Diatrachomyia* sp. on chrysanthemum, **VII**, 409; **VIII**, 510; **X**, 176, (1114)
- Diastase of orange leaves, **VIII**, 182
- Dibotryon morbosum*, **III**, 334; **V**, 602, 603.
- $\beta\beta$ -Dichloroethyl ether as greenhouse fumigant, **IX**, 1284
- Dichogamy in walnut, **III**, 481
- Dictionary—
 German-English, botanical, **IX**, 682
 horticultural, English, French, German, Dutch, **IV**, 688
 horticultural, English, French, German, Italian, **VIII**, 1333
 of plant names, polyglottic, **VI**, 974
 of scientific terms, **X**, 408

SUBJECT INDEX

- Didymella**—
applanata, VIII, 1056
lycopersici, X, 607
- Dieback**, see under *particular plant*
- Dietetics**—
 affected by manuring, X, 1294
 of fruit and fruit products, X, 1216
- Digging** near fruit trees in bloom, V, 362
- Digitalis lanata* and *purpurea*, X, 1095
- Digitaria sanguinalis*, weed, VII, 829
- Diocious habit** and failure to bear, IX, 455
- Dioscorea**—
 in the East, account of genus, X, 1549
 yams, X, 1170
- Diospyros**—
discolor, VIII, 1235
 kaki, see Kaki
- Diplocarpon earlianum*, X, 113
- Diploid fruits**, pollen tube growth, III, 299
- Dipteryx odorata*, see Tonka bean
- Diseased material**, photography of, VII, 641
- Diseases**, see also under *particular diseases and plants*
- Diseases**—
 in Australia, V, 593, 594
 in Belgian Congo, X, 1433
 in British Columbia, VII, 65
 in Ceylon, list of, VI, 883
 chemotherapy of, V, 387
 control—
 in forest nurseries, II, 144
 in gardens and small orchards, VIII, 725;
 X, 125
 some methods of, IX, 456
 minor elements and, VIII, 1
 by resistant varieties, VIII, 84
 by spraying, VIII, 759
 in Switzerland, IV, 63
 in war time, X, 1374
 in Denmark, 1938, X, 99
 (noted by) East Malling, 1939, X, (952)
 environment and, VI, 293
 excess, in potato, IX, 897
 of fruit in Baluchistan, VI, 585
 of fruits and hops, manual on, IX, 352
 fungus and other, in England and Wales,
 1928-32, IV, 500
 inheritance, V, 397
 in Kiangsu, China, X, 524
 legislation, see Legislation
 list of common names, V, 516
 market, III, 185; VI, 205; VIII, 437; IX,
 311, 1218
 in N.S. Wales, V, 593
 in N. Zealand, list, X, 98
 nomenclature, V, 516
 physiological, see under *particular plant or phenomenon*
 in plants, health and, IV, 586
 of processed fruit, VI, 973
 relationships in grafted plants and chimaeras,
 VI, 251
 resistance to, III, 485; VIII, 84
 root—
 in agriculture, X, 525
 pressure and, VI, 623
 in S. Rhodesia, X, 651
 of storage, V, 303; VI, 205, 957
 in Svendlov, U.S.S.R., IX, 103
 in Ukraine, list of fungi, X, 979
 virus, see Virus diseases
- Ditylenchus dipsaci*, see Eelworm
- Diurnal changes** in water content of tomato seedlings, VIII, 136
- Divining**, bibliography on water, IX, 27
- Dizygomyza cepae*, X, 1382
- Docynia indica* as apple rootstock, X, 1554
- Dolichos* spp., as green manure, VIII, 871
- Dominica**—
 citrus rootstocks in, X, 1115
 Dep. Agric. Rep. 1936-1939, VIII, 307.
 (1378); X, (450), (1589)
- Dominican Republic**, banana in, VIII, 576
- Dominion Experimental Farms**, Canada, X, 414
- Dormancy**, see also Foliation, control of irregular
 Dormancy—
 breaking bud, VII, 270; VIII, 420; IX, 430;
 X, 890
 day length affects, VII, 268
 induced by root exposure, VII, 559
 in potato tubers, breaking, IX, 366, 1268-
 1271
 seed, VIII, 1073, 1074; IX, 1, 41, 518
 shortened by growth substances, IX, 4
 in strawberry, breaking of, VIII, 420
- Dothiorella* rot, VI, 152, 878; VIII, 1; IX, 1032
- Double working**, see Apple, double working and Pear, double working
- Dowsing**, bibliography on, IX, 27
- Drain making machine**, IV, 623
- Drainage**—
 of Besoeki tobacco soils, VIII, 850
 a new method, IX, 974
- Dried fruit**—
 production figures, VIII, 927; IX, 348;
 X, 419
 storage, VIII, 889
- Drought**—
 and apple trees, III, 309; IV, 527
 and coconuts, II, 193; IV, 654; V, 488
 plant resistance, testing of, V, 330
 and potato tubers, VI, 773
 resistance—
 in deciduous fruits, IX, 807; X, 671, 963
 leaf form and, IX, 807
 in sugar cane, VIII, 845
 spot—
 on apple, see Apple, drought spot
 in pear, III, 184
 and tea culture, V, 462; VI, 900
- Drugs**, medicinal, plant, mineral content, IX, 1080
- Dry land**—
 farming in Western Canada, VIII, 955
 gardening in Canada, IX, 24
- Dry matter residue of trees**, ratio to leaf area, V, 187
- Drying**—
 apples, VII, 773; IX, 664
 apricots, I, 206; VI, 224
 figs, IX, 328
 fruits, II, 93; III, 608; VII, 595; VIII, 290;
 IX, (325); X, 761, 1531
 grapes, see Vine, grape drying
 palm kernels, VIII, 297
 peaches, VI, 224
 pears, VIII, 593, 911; X, 392
 prunes, see Prune drying
 vegetables, VIII, 1323; IX, (325); X, 761,
 1531
 walnuts, II, 297
- Durian**—
Phytophthora palmivora disease, IV, 658
 propagation, X, 440
 root disease, IX, 294

SUBJECT INDEX

- Dust guns, VI, 76
 Duster, a power, IX, 1537
 Dusting—
 apparatus, IX, 499, 1537
 with cryolite, VIII, 452
 for disease control, III, 200, 205, 207; IV, 65,
 396, 401, 441, 566; VI, 73, 76, 335;
 VIII, (467), 759; IX, 474, 476
- Dutch East Indies—
 fruits of, I, 219
 pineapple exports of, III, 259
 rubber in, IX, 261
 storage pests, VIII, 899
 vegetables of, I, 218
- Dwarf tree cultivation, VIII, 303; IX, 416, 417
 Dwarfing, physiology of, X, 1317
 Dye—
 adsorption test for hardness, VII, 873
 introduction into plant tissues, *see also*
 Injection, I, 236
 test for germination capacity, VII, 825
 use as herbicide, V, 401
- Earths, rare, in hickory leaves, VIII, 1025
 Earthworms, V, 144
 East African agric. Res. Stat., *see* Amani
 East Malling Research Station—
 A.R. 1931-1933, II, 208; III, 273; IV, 313
 hop research, X, 168
 and Imperial Bureau of Fruit Production,
 VI, 242
 21 years' work at, IV, 315
- Ecological—
 differentiation of fruit trees, X, 480
 factors in tropics, III, 379
 variation in *Rubus* and *Fragaria*, VIII, (715)
- Economy—
 and fruit growing, VIII, 664
 how plants have found their homes, X, 23
 in North-Western Rhodesia, plant, VIII, 831
 of photosynthesis, VI, 618
- Economics—
 of apple orcharding, II, 8
 bibliography of agricultural, IX, 340
 Edinburgh and E. Scotland agric. Coll. A.R. 1937/8-
 1938/9, IX, 695; X, 775
- Education in West Java, agricultural, VIII, 1185
 Eelworm—
 in antirrhinum (*Heterodera* spp.), VII, 957
 bulb (*Anguillulina* or *Ditylenchus dipsaci*),
 VI, 131, 358; VIII, 749, 1121; IX, 183;
 X, 186, 187
 bulb (*Ditylenchus dipsaci*), VIII, 519; IX, 183;
 X, 1048
 of bulbous iris (*Ditylenchus dipsaci*), VIII, 519;
 IX, 183
 of chrysanthemum, IV, 423; VIII, 509; IX,
 456; X, 177
 and mottle leaf in citrus, VII, 446
 of onion (*Ditylenchus dipsaci*), X, 1048
 in parsnip (*Anguillulina dipsaci*), VII, 682
 and pea sickness (*Heterodera schachtii*), IV,
 413; V, 250
 in pineapple (*Heterodera marioni*), V, 730;
 VII, 478
 in potato (*Heterodera schachtii*), VII, 685
 and root injury in fruit trees (*Anguillulina pratinensis*), VII, 345
 stem and bulb, *see* *Anguillulina dipsaci*
 in strawberry (*Anguillulina dipsaci*), IV, 68;
 VIII, 749, 1064
- Eelworm (*continued*)—
 in tomato (*Anguillulina dipsaci*), VII, 125;
 VIII, 143
 in vines (*Heterodera marioni*), VII, 83
- Egg plant—
 breeding, VIII, 133
 cultivation, VII, 127; VIII, 120
 fruit composition, VIII, 602
 grafting on nightshade, X, 159
 market diseases, III, 185
 effects of nitrogen and defoliation on, III,
 358
 paper mulch, IV, 406
 Phomopsis disease of, VII, 479; IX, 1376
 wilt, IV, 90
- Egypt—
 citrus in, VII, 705
 olive and its products in, X, 210
- Eichhornia* spp., VII, 176; X, 576
- Eire—
 commercial horticulture in, IX, (507)
 Minist. Agric. 8th A.R. 1938/9, X, (450)
 potato seed growing in, IX, (507)
- Elaeagnus*—
 aphids on, V, 432
 spp., breeding, VIII, 50
- Elaeis guineensis*, *see* Oil palm
 Electric disinfection of soil, VII, 528
 Electrical resistance as test of maturity, II, 229
 Electricity—
 for artificial lighting, *see also* Artificial
 lighting, I, 3, 4, 117; III, 67
 and carnations, VIII, 502
 common terms in, IX, 740
 productive of mutations, II, 315; IV, 151;
 VII, 19
 for soil and frame heating, I, 220; II, 321,
 322; III, 66, 349, 437; IV, 589, 593;
 V, 81, 167; VI, 510, 805; VII, 11, 279,
 402, 807, 808; IX, 132, 738; X, 1140
 for soil pasteurisation or sterilization, V, 242,
 410; VI, 106
- Electroculture, IV, 152; IX, 739
 Elements, minor, *see* Minor elements

Eleocharis tuberosa, X, 678
 Elm disease, V, 572; IX, 1095
 Elsinoë—
 ampelina, VII, 901; IX, 1221; X, (546)
 citri, *see also* Citrus scab, X, 1129
 fawcettii, VIII, 1159
 veneta, IX, 440, (830); X, 986

Emanations—
 from fruit in store, VI, 273, 600, 601; VIII,
 279, 327, 898, 920, 1272; IX, 1065, 1459;
 X, 321, 331, 337, 370, 728, 1225, 1232
 from fungi affect stored fruit, X, 1518

Emasculators for pollination experiments, VII,
 1010

Embryo—
 abortion—
 in peach, VIII, 388, 389
 in *Prunus avium*, III, 286
 artificial culture of cherry, III, 147; VI, 651;
 VII, 18
 destruction in cherry and peach, VIII, 388
 development—
 in apple, *see* Apple embryo
 in artificial culture, VIII, 390
 in peach, IX, 1171

Empire products, research on British, II, 376;
 X, 384

Empoasca fabae, IX, (173); X, 1131

SUBJECT INDEX

- Encyclopaedia—**
 the new illustrated gardening, II, 417
 of scientific agriculture, II, 209
- Endive cultivation**, VIII, 479
- Endoxerosis of lemons**, VII, 445; VIII, 534
- Endymion non scriptus**, plant hormones and, IX, 730, 731
- Engineering, storage**, VIII, 1255
- Entomology recent advances**, IX, 1512
- Entomosporium maculatum**, IX, 100; X, (128)
- Environment—**
 and cacao, III, 402
 and citrus, II, 365; VIII, 175
 control in glass houses, IV, 237, 238
 controlled, apparatus for growing under, VII, 815
 and deciduous fruit growing, VI, 437
 and disease, VI, 293
 and photoperiodicity, VIII, 954
 and pyrethrum, V, 55
 and strawberries, IV, 545
 and tomato growth and metabolism, VII, 934; VIII, 1102; IX, 919
- Eosine action on roots**, VIII, 639
- Ephesia—**
cautella in copra, X, 398
elutella, II, 177; IX, 1478
- Epigaea repens**, propagation, VII, 414
- Epigastigmus brevivalvus**, parasitic on citrus gall wasp, X, 650
- Epilachna spp.** on melon, VI, 757
- Epimedium** and *Vancouveria*, a monograph on, IX, 555
- Epipolaeus caliginosus**, VIII, 748
- Epitetranychus althaeae**, IX, 1350
- Epitrix parvula**, IX, (547)
- Equivalent ratio in plants, VII, 812
- Ericaceae**, growth substances for, VIII, 934; X, 1107
- Eriobotrya japonica**, see Loquat
- Eriophyes—**
lycopersici, IX, (873)
pyri, V, 402; VII, 657; IX, (1260)
ribis, VI, 99; IX, 484
sheldoni, VIII, 191
similis, IV, 576
- Eriosoma lanigerum**, see Aphides, woolly
- Eritrea**, fruits of, IV, 444
- Erosion**, soil, see Soil erosion
- Error in horticultural experiments, V, 523
- Eruca sativa** as oil plant, X, 1098
- Erwinia amylovora**, *see also* Fireblight, VIII, 92
- Erysiphe cichoracearum**, VI, 749; VII, 895, 928
- Erythroxylon coca**, I, 187; II, 181
- Eskimo**, plants used by, X, (850)
- Essential oil**, *see also* Oil
- Essential oil—**
 anethole, VIII, 299
 citronella, VII, 784; X, 310, 311
 in citrus fruits, *see also* in orange, II, 167; III, 265; IV, 694
 coriander, VIII, 794
 determination in plants, X, 849
 in East Africa, II, 94; IV, 490; VI, 610; VII, 228
 extraction, III, 267; IV, 694
 in French Guinea, from orange, V, 315
 in Italy, III, 265
 in Kenya, *see also* in East Africa, II, 94
 in *Ocimum* spp., VIII, 614
 from labiates and composites, VIII, 515
 in orange, I, 85, 86; V, 315; X, 196
- Essential oil (continued)—**
Pelargonium, VI, 169; VII, 228; VIII, 610-612, 1115
Pimpinella, VIII, 613
 in Rhodesia, II, 411
 rose, VIII, 1115
Rosha grass, IV, 491; V, 704
 stills for, III, 267
 in U.S.S.R., VIII, 299, 796, 827; IX, 605; X, 622
- Esters as plant hormones**, VII, 265, 818
- Ethyl carbamate** as dormancy breaker, IX, 366
- Ethylene—**
 in apples, *see* Apple emanations
 and banana ripening, VIII, 898; X, 370
 chlorhydrin for treatment of gladiolus corms, IX, 557
 for curing lemons, IX, 1470
 dichloride, control of peach borer, IX, 482
 effect on—
 fruit and vegetable colouring and ripening, IV, 484, 669; V, 506, 507; VI, 25, 273; VIII, 581, 582, 1271, 1272, 1303, 1367; IX, 313; X, 729
 plant growth, IV, 605; V, 520; VI, 123; IX, (369)
 root formation, VI, 123
 emanations from fruit, *see also* Emanations, VI, 273; VIII, 279, 327, 898; X, 370, 728, 1225
 evolved from ripening pears, VI, 273
 formation by plant tissues, VI, 25; VIII, 920
 induces flowering in pineapple, X, 1212
 in pecan harvesting, VII, 600
 and plant auxins, similarity of influence on growth, V, 520
 thiocyanohydrin as dormancy breaker, IX, 366
 treatment of fruits and vegetables, I, 325; II, 279, 372; III, 128, 538, 600, 603; IV, 484, 605, 669; V, 506, 507; VII, 600; VIII, 1303, 1367; IX, 313; X, 329, 333, 334
- Etiella zinakinella**, IX, 113
- Etiolation propagation methods**, II, 63; IV, 279; VI, 372; VII, 829
- Eucalyptus—**
citriodora, growth from cuttings, IX, 606
 in commerce, VIII, 541
 planting, VIII, 825
 propagation by cuttings, IX, 604
 as windbreak, VIII, 185
- Eucoila pelleronoi**, parasite on fruit fly, X, 1373
- Eugenia—**
aromatica, *see* Clove
hookeri, polyembryony in, VI, 587
jambos, VIII, 1233
- Euonymus radicans**, propagation, VIII, 629
- Euphorbia lathyris**, resins in, X, 1100
- Eurytoma fellis**, V, 402; VI, 867; X, 650
- Evaporation—**
 of fruits, III, 89, 261
 measuring atmospheric, IV, 466
 in Palestine, VIII, 953
 and root area affect fruit growth, V, 348
- Evergreens**, effect of growth substances on, X, 798, 1279
- Exanthema in citrus** and other fruit trees, V, 449; VI, 851; IX, 467, 575, 1341; X, 1128
- Excavating trees**, methods of, X, 1319
- Exhibition**, Moscow Agricultural, X, 418

SUBJECT INDEX

- Experimental—**
 design, X, (1304)
 results, analysis, II, 2; III, 142, 143, 275;
 VI, 640; IX, 22; X, 451, 452
- Experimental-fälter, raspberry trials at, II, 349**
- Experiments—**
 error in horticultural, V, 523; X, (850)
 field—
 with annuals, VIII, 208
 with apples, II, 101
 with black currants, VIII, 54
 with citrus or tropical crops, I, 395; II,
 389, 391; IV, 427, 446, 662
 with coconut, VIII, 257
 with coffee, VIII, 231
 with field crops, II, 2, 102; III, 142, 144;
 IV, 4, 5, 446; V, 2, 3
 with raspberries, II, 32, 349
 with roots, III, 143, 439
 with strawberry, VIII, 418, 999, 1000
 with vines, IV, 365, 548
- Explosives in coconut cultivation, X, 711**
- Exports—**
 of fruit from South Africa, VIII, 407, 408,
 1369; IX, 318
 of fruit to and from tropics, IV, 278
- Extracts, H. ion concentration in fruit, III, 129**
- Fabrea maculata, IX, 855**
- Factorial design in greenhouse experiments, X, 1303**
- Farina from potato, X, 586**
- Farm—**
 equipment at Reading, VIII, 656
 and garden seeds, manual, VIII, 916
- Fats, production in Africa, IV, 489**
- Feijoa sellowiana, IV, 648; VIII, 1232; IX, 588, 637, 1030**
- Fence-posts, live, for coconut, VIII, 876**
- Fencing material, preservation of, VI, 435**
- Fermentation industries, report for 1938, IX, 696**
- Ferns—**
 edible, VII, 452
 prothallia and inhibitions due to growth
 hormones in, VIII, 623
- Fertility, garden, IV, 2**
- Fertilizers, see also Manuring**
- Fertilizers—**
 for alkaline soils, VI, 842
 almond, VI, 726
 aluminium phosphate, VI, 157
 apple, *see* Apple fertilizers
 application by injection, *see* injection
 apricot, IV, 345
 artificial F.Y.M., II, 26; VI, 119
 asparagus, VIII, 472
 avocado, VI, 875; VIII, 1229; IX, 602
 azalea, VIII, 513
 banana, *see* Banana manuring
 bean, IX, 1280
 beetroot, VIII, 122, 470
 bibliography, 1931-1934, V, 746
 bilberry, III, 167; V, 202; VI, 458
 blackberry, IX, 69
 black currants, VIII, 997; IX, 829
 boron, *see* Boron
 brussels sprouts, VIII, 470, 775, 1093
 cabbage, *see* Cabbage manuring
 cacao, I, 383; IV, 460, 464, 465; V, 120,
 473, 477, 479-481; VI, 574, 577, 911; VII,
 1029; VIII, 859; IX, 1411; X, 1188, 1463
- Fertilizers (continued)—**
 calcium cyanamide, V, 191; VI, 276, 684, 693;
 VIII, 696; IX, 814
 carbon, VIII, 353
 carbon dioxide, *see* Glasshouse, CO₂, in
 carrot, VIII, 122, 470, 480
 cassava, X, 1438
 celeriac, VIII, 470
 celery, *see* Celery fertilizers
 chemical, V, 329
 cherry, *see* Cherry fertilizers
 for chillies, IX, 629
 cinchona, VIII, 240, 864; X, 1474
 citrus, *see* Citrus fertilizers
 coconut, *see* Coconut manuring
 coconut husk ash as, V, 140; VI, 391, 930
 coffee, *see* Coffee manuring
 compost, *see* Compost
 copper, for sugar beet, X, 1045
 cover crops, *see* Cover crops
 cucumber, II, 269; VIII, 470; X, 1381
 cultivation affects response to, VIII, 393
 damson, IX, 69
 for deciduous fruit trees, III, 270; V, 553, 554;
 VII, 35, 573, 796; VIII, 394; IX, 1181;
 X, (921)
 derris, X, 241
 flax, VIII, 495, 798; IX, 169
 flower, III, 63
 and food production, II, 210
 and fruit colour, II, 28; V, 366
 for fruit crops, bulletin on, VII, 796
 and fruiting, II, 27
 geranium, IX, 608
 ginger, III, 403; IV, 468
 gladiolus, IX, 1318
 gooseberry, IX, 69
 grapefruit, *see* Grapefruit manuring
 green manuring, *see also* Cover crops, I, 382,
 383; II, 26, 83, 176, 384; III, 382; IV, 113,
 134, 271, 624, 659, 661; V, 93, 139, 281;
 VI, 278, 432; VII, 174, 521; VIII, 211,
 402, 546, 548, 697, 698, 700, 871; IX, 65,
 1007; X, 262, 637, 666, 685, 827-830, 904,
 (1335)
 groundnut, VII, 1043; VIII, 1236
 gypsum, VII, 53
 Heda lance injection of, III, 301; IV, 189,
 587; IX, 67
 hop, *see* Hop fertilizers
 H. ion, effect on absorption of, IV, 351
 injection—
 into soil, I, 246, 347; III, 301; IV, 189,
 587; IX, 67; X, 833
 into tree, IV, 191, 192, 349, 354; V, 193-
 195; VI, 454, 455; VII, 294, 295, 601-611
 iodine as, III, 351; IV, 239; VII, 370
 iron, VIII, 650
 and irrigation, II, 28
 in irrigation water, VII, 105, 583
 lance for manuring, *see* Fertilizers, Heda
 lance
for Lansium domesticum, V, 136
 leek, VIII, 470
 lemon, V, 674; VI, 144; X, 1125
 lettuce, *see* Lettuce manuring
 for limes, VIII, 1140
 lime as, III, 373; V, 92; VII, 53; VIII, 924,
 1015; IX, 68, 896, 1191
 mandarin, VII, 163; X, 635, 1121
 manganese, VIII, 650; IX, (1133)
 mango, VIII, 1229

SUBJECT INDEX

Fertilizers (*continued*)—

mangosteen, VIII, 1229

manual on, V, 322

for market garden crops, VII, 105, 686; VIII, 470, 1079

melon, VII, 680; VIII, 1005; IX, 1191

minor elements, *see also* Boron and other elements, V, 331; VII, 299, 803, 933; VIII, 1, 350, 649, 951; IX, 388, 1129, 1130; X, (921), 1351

mint, V, 656

mushroom, IX, 531; X, 612

narcissus, VI, 811; IX, 1320

needs, diagnosis of, I, 245; III, 321-324; IV, 207, 371; V, 479, 700; VIII, 950; IX, 432, 433, 1131; X, 894

nitrogen losses from, X, 235, 236

nitrogenous, I, 45, 49, 50, 145-148, 165, 177, 188, 275; II, 27, 35, 236, 237, 239, 272; III, 49, 161, 162, 303, 317, 358; IV, 40, 194-196, 342, 345, 346, 348, 351, 588; V, 191, 263, 283, 284, 298, 353, 366, 417, 467; VI, 276, 683, 684, 690, 693, 697, 713, 725, 726, 917; VII, 35, 438, 527, 570, 583-585, 685, 719, 720, 966; VIII, 496, 699, 775, 778, 779, 823, 1005, 1141; IX, 391, 470, 608, 629, 813, 815, 816; X, 71, 202, 236, (237), 635, 891, 897, 1445

N, P and K, I, 42, 47, 245, 248, 260, 261, 346, 374; II, 26, 105, 235, 238, 264, 276, 333, 351; III, 157, 163, 180, 302, 472; IV, 35, 37, 115, 193, 211, 347, 350, 544; V, 26, 38, 91, 120, 134, 136, 329, 372, 445, 479, 480, 552-554, 657; VI, 35-37, 54, 55, 105, 278, 401, 457, 516, 577, 695, 713, 714, 721, 724, 772, 811, 843, 911, 932; VII, 50, 53-55, 163, 309, 367, 370, 394, 437, 680, 721-723, 826, 862, 1029, 1044; VIII, 778, 823, 989, 999, 1000-1013, 1138; IX, 68, 69, 94, (136), 143, 168, 169, 275, 300, 301, 434, 625, 752, 817, 829, 906, 1181, 1277, 1279, 1318, 1320, 1334; X, 70, 76, 201, 235, 256, 584, 612, 701, 702, 896, 898, 942, 1042, 1057, 1121, 1125, 1127, 1140, 1188, 1200, 1209, 1327, 1343, 1380, 1381, 1385, 1438, 1463, 1500

oil palm, *see* Oil palm manuring

olive, IX, 1369

onion, VI, 781, 782; VIII, 470; X, 1381

orange, *see* Orange manuring

from orange waste, IX, 1340

organic, *see* Compost and particular manures

organic refuse, VII, 1002

for ornamentals, III, 63

parsley, VIII, 470

pea, *see* Pea fertilizerspeach, *see* Peach fertilizerspear, *see* Pear fertilizerspeat, *see also* Peat, II, 334

pecan, V, 38; VI, 725

penetration in argillaceous-calcareous soils, X, 36

Pennsylvania experiments in, III, 469

phosphatic, I, 272, 275; III, 63, 359; IV, 133, 345, 362, 464, 614; V, 477; VI, 157, 542, 544, 545, 688; VII, 310, 311, 406; VIII, 393, 778, 779, 823, 829, 1105; IX, 572; X, 236, 900, 1487, 1497

pineapple, *see* Pineapple manuring

plum, VI, 35; VIII, 44; IX, 69

pot plant, III, 63

Fertilizers (*continued*)—

potassic, I, 48, 51, 149, 247, 348-350; II, 52, 234, 408; III, 57, 97, 300, 324, 335, 359, 473; IV, 188, 343, 344, 362; V, 140, 284; VI, 144, 692; VII, 51, 52, 114, 157, 162, 184, 300, 301, 370; VIII, 119, 122, 302, 393, 778, 823, 1140; IX, 387, 435, 442, 463, 1191, 1264, 1267, 1280, 1290, 1291, 1318; X, 503, 899, 1068-1071

potato, *see* Potato manuring

profit from, VIII, 917

prune, IV, 345

pyrethrum, IX, 1256

quince, IX, 69

rare elements in, *see* minor elementsraspberry, *see* Raspberry manuring

red currant, IV, 544; IX, 442, 463

response to, determined by leaf analysis, *see* needs, diagnosis

review of results with, I, 346

rubber, *see* Rubber manuring

salt as, VIII, 952

in sand culture, interaction of N, P and K, X, (921)

for shade trees in nursery, VII, 954

shallot, VIII, 470

for shrubs, III, 63

small fruit, I, 260; III, 63

soil injection with, *see* injection into soil

and soil structure, VIII, 352

and soils, I, 46, 52; II, 105; X, (237)

in spray form, IX, 1132

storage affected by, II, 234, 238; IV, 342, 343; VII, 722; VIII, 45, 1266; X, 70

strawberry, *see* Strawberry manuring

sulphur, VIII, 1079; IX, 1139

sweet potato, VII, 680; IX, 615; X, 1140

tea, *see* Tea manuring

thyme, V, 657; VI, 770; VII, 948

tobacco, *see* Tobacco manuringtomato, *see* Tomato fertilizers

for tropical crops, I, 272, 424; V, 700; VIII, 1229

tulip, IX, 1320

tung oil, VIII, 205, 823; IX, 1363

vegetable, *see* Vegetable manuring

in Victoria, Aust., III, 472

vine, *see* Vine manuring

and vitamin content, VII, 809, 810; VIII, 10, 789

watercress, VIII, 1096; IX, 1279

for willows (cricket bat), IX, 752

wine affected by, VIII, 67

Fetola disease of oranges, IX, 977; X, 206, 1419

Fibre—

cells, influence of potassium on, VIII, 495, 798

plants, *see also* Abacá, Agave, Broom, Caroá, Crotalaria, Flax, Hemp, Jute, Lavatera, Nipa Palm, Ramie, Sansevieria, Sunn Hemp, Thespesia, and others

plants—

in Brazil, III, 384; IX, 285

in Dutch Borneo, IX, 237

in French Guinea, two, V, 296

less common vegetable, VIII, 157

potash deficiency, VIII, 798

pots for propagating, VII, 385

production figures of industrial, VIII, 301; IX, 347, 1517

Ficus carica, *see also* Fig*Ficus carica*, flowers of, II, 332Field experiments, *see* Experiments, field

SUBJECT INDEX

Fig—

biochemical studies, VIII, 197; IX, 328
 composition, VIII, 602
 cuttings, growth substances and, IX, 5
 drying, IX, 328
 flower structure, II, 332
 growing—
 in California, IV, 516
 in Great Britain, IV, 15
 in Greece, V, 7
 in Holland, IX, 406
 at Nikita, U.S.S.R., work on, X, 482
 in Pacific N. West, III, 150
 in Palestine, III, 149
 in S. Africa, suggestions for, I, 329
 throughout the world, I, 328
 in U.S.A., IX, 588
 harvesting, V, 29
 leaf mottle, V, 391
 magnolia, utilization of, IV, 485
 maturity hastened by olive oil, VII, 854
 mosaic, IV, 556; VI, 69
 nitrogen and mould, IX, 470
 pests, X, 548, 1263
 pollination, VI, 22
 pruning, II, 338, 339; IX, 1176
 spoilage, epidemiology of, IV, 66
 spotting, VIII, 1049
 steaming experiments, IV, 299
 taxonomy, III, 289
 temperature, resistance to low, VI, 701
 wasp (*Blastophaga psenes*), VI, 22

Fiji—

annu. Bull. divis. Reps 1932 and 1937-1938,
 III, 616; IX, (726), (1544)

copra in, II, 194

Filberts, breeding, cultivation, etc., VII, 312, 597;
 VIII, 68, 434; IX, 86, 406

Films, agricultural, X, 477

Fireblight (*Bacillus amylovorus* and *Erwinia amylovora*), III, 490; IV, 562-564; V, 393;
 VI, 299, 740; VII, 332; VIII, 91, 92,
 1046, (1072); IX, 1225; X, (1378)

Fires, bush, soil micro-organisms and, X, 1163

Fish poison plants, III, 585; IV, 625; V, 113;
 VI, 884; VIII, 554; IX, 128

Five corner (*Averrhoa carambola*), VII, 467

Flax—

boron affects growth in, IX, 1310
 diseases, VIII, 724; IX, 171
 effect of time of sowing on, IX, (938)
 fibre, IX, 170, 1313
 growing—
 in England, X, (1588)
 in the Philippines, VII, 180
 manuring, VIII, 495, 798; IX, 169
 poppy and carrots grown together, IX, 1311,
 1312
 potassium affects fibres in, VIII, 495, 798
 seed germination, growth substances and,
 IX, 10

Flood injury to deciduous trees, VI, 471

Flora—

Far East, X, (1304)
 Madagascar, X, 673
 nut, IX, 1514
 small fruit, IX, 1513
 Syrian desert, X, (226)
 Ukrainian, X, 1551

Flores verbasci from *Verbascum* spp., VIII,
 514

Floricultural research in U.S.A., VII, 950

Floriculture—

cloth houses used in, X, 173, 1106
 irrigated, VIII, 1081

Florida—

agric. Exp. Stat. A.R. 1936/7-1937/8, VIII,
 1350; IX, 1533
 cold storage of citrus fruits, VIII, 280
 work of horticultural Dep. in, VII, 732

Florigen or flowering hormone, IX, 7, 8; X, 29,
 454

Flower, *see also* particular plants

Flower—

breeding, VIII, 158, 362; IX, 1576
 bud, *see* Fruit bud
 colour in, VIII, 362; X, (1114)
 drop in pear, V, 45
 forcing, X, 1260
 frost injury tests, IX, 845
 garden, insects of, IV, 601; VII, 793
 growing—

under glass, VII, 792
 in Great Britain, commercial, VII, 792;
 VIII, 497; IX, 346; X, 425, 426

soil factors and, VI, 528
 investigations at John Innes, X, 437, 1576

light effect on, II, 316; V, 67
 low temperature effect on, X, 1359

manuring, III, 63
 marketing, VIII, 499
 research in U.S.A., VII, 950

seeds, VIII, 916; IX, 1314
 storage, III, 592; VI, 963; VIII, 888; X, 1524
 structure affected by environment, IX, 919
 supplies in U.K. in 1937 and 1938, VIII, 1341;
 IX, 1516

Flowering—

affected by—
 artificial lighting, *see* Artificial lighting
 daylight, *see* Photoperiodicity
 leaf:fruit ratio, V, 190
 temperature, III, 519; VIII, 175
 chrysanthemum, retarded by radiation, VIII,
 1118

dates—
 affected by carbohydrate translocation,
 VIII, 511
 at East Malling, V, 179
 at Skiernevice, VIII, 683

hastened—
 in daffodil and bulbous iris, VI, 809
 by vernalization, VI, 2

induced by grafting, X, 29
 in pears, second, II, 329

phloem development and, VII, 136; IX, 1141
 plants, vegetative propagation, Stewart's
 methods, VI, 122

time, different aspects of, V, 846
 Fluorescein and carbohydrates in phloem, VIII, 644
 Fluorescent lamps as source of light, X, 843

Foeniculum vulgare, source of anethole, VIII, 299

Foliage colour and crop in apple, VI, 24
 Foliation—

control of irregular, IV, 531; VI, 467; VII, 59
 delayed, VIII, 387

Folliculin, effect on plants, VIII, 633; IX, 946
 Fomes—

noxius in oil palm, VIII, 875
 root disease in rubber, VIII, 243; IX, 279-281

Food—

composition, Medical Research Council's
 report, X, 769

crops of tropics, III, 385

SUBJECT INDEX

- Food (continued)—**
- Investigation Board Lond. A.R. 1931-1932 and 1935-1937, II, 307; IV, 312; VI, 989; VII, 1092; VIII, 1255, 1313
 - investigation, index to literature on, X, 1271 and life, U.S. Dep. Agric's Yearbook for 1939, X, 789
 - plants—
 - beverage plants, VII, 1107
 - throughout the ages, I, 1
 - preservation, recent work on, IX, 1054
“protective,” V, 327
 - Foodstuffs in Ceylon, analysis of, VIII, 573
 - Footrot in citrus (*Phytophthora* sp.), V, 679
 - Forcing—
 - cantaloups, VII, 591
 - by electricity, *see* Electricity for soil and frame heating
 - gladiolus, III, 79
 - methods, VIII, 949; IX, 132, 341, 738; X, 1260
 - narcissus, VIII, 517; X, 182
 - by radiant heat and light rays, VII, 269
 - strawberries, V, 566
 - tulip, VIII, 517; X, 182
 - vegetables, IV, 234; VII, 789; X, 1024, 1025
 - Forecasting—
 - crops, II, 103
 - insect attacks, II, 137
 - Forest—
 - nursery weed and disease control, II, 144
 - products, minor, IX, 1092
 - tree pests and diseases, IX, 102
 - Forestry system of rubber planting, II, 420
 - Formaldehyde—
 - control of *Botrytis* on grapes, IX, 474
 - damage to seeds overcome by phyto-hormones, IX, 16
 - treatment of soil against damping-off, VIII, 744
 - Formalin—
 - to control *Heterodera schachtii*, V, 250
 - a soil disinfectant, IX, 500
 - Forsythia*, growth substances for, IX, 17
 - Fort Vermilion station, Alberta, X, 1560
 - Fragaria*, ecological variation, VIII, (715)
 - Frames—
 - acetate films for glass in, X, 1063
 - cold, V, 241
 - crop production in, VII, 789
 - heating of, X, 1030
 - heating by hot springs, X, 1033
 - mechanically run, X, 583
 - Framework of fruit trees, *see also* Top-working, I, 152; IV, 165; V, 13, 364; VI, 12; VII, 287, 288; VIII, 615; IX, 407, 413, 414; X, 69, 863
 - France, pomology and cider making in, IX, 759
 - Frankincense in Somaliland, VIII, 1368
 - Frankliniella*—
 - insularis*, VIII, 264
 - schultzei*, *see* Pineapple thrips
 - tritici* on strawberries, VII, 86
 - Fraxinus ornus*, rootstock for olive, IX, 1367
 - Freezia, pretreatment of, IX, 954
 - Freezing—
 - apparatus, VIII, 730
 - death of plants from, IX, 462
 - as method of preservation, *see* Storage, frozen pack
 - to preserve Philippine fruits, IV, 136
 - temperatures of fruits, vegetables and florist's stocks, VIII, 888
 - of tomatoes in transit, IV, 244
 - Frenching—
 - of citrus, IX, 575, 1341
 - of tobacco, VII, 404; VIII, 853
 - of tung oil, VIII, 824; IX, 224
 - Froghopper—
 - (*Cercopis sanguinea*) causes angular leaf spot in apple, X, 985
 - pyrethrum control of sugar cane, VIII, 1198; X, 1168
 - wattle, so called, X, 1157
 - Frost—
 - apple resistance to, *see* Apple frost hardiness
 - blowers, *see* protection by blowers
 - citrus resistance to, *see* Citrus, frost resistance
 - conference at Mildura, VII, 630
 - damage—
 - affected by rate of thaw, VI, 739
 - and afforestation in Great Britain, VIII, 727
 - in Algeria, 1939, IX, 1208
 - apple, *see* Apple frost injury
 - in apples, potatoes and onions, VI, 739
 - apricot, VI, 738; IX, 459, 848
 - avocado, VIII, 1171; IX, 603
 - bilberry, IX, 1212
 - cherry, *see* Cherry frost injury
 - citrus, VII, 727; VIII, 809
 - correlated with nutrient availability in raspberry, V, 585
 - to deciduous fruit, cause and prevention of, VII, 622; IX, 458
 - in Estonia 1939/40, X, 970, 971
 - to flowers and buds, IX, 849; X, 1359
 - in Italy in 1938, IX, 848
 - at Long Ashton in 1938, IX, 847
 - mallee scrub affects, I, 354
 - mechanism, II, 342; VI, 736, 737, 739; VII, 317; IX, 1207
 - meteorological factors affecting, IX, 87, 88
 - in Northern France, 1938, VIII, 1031
 - to nursery trees, I, 70
 - onion, V, 642
 - orange, V, 267, 503; VII, 440
 - peach, VIII, 731
 - pear, I, 229; IX, 89, 459
 - to plant cell, IX, 462
 - plum cankers and, X, 529
 - pruning and, VII, 625
 - in raspberry, V, 585
 - types of, VII, 875
 - in U.S.A. and Canada, 1933-1936, VI, 290-292; VII, 624
 - in U.S.S.R., 1928-1929, II, 343
 - in Victoria, Aust., III, 486
 - vines, *see* Vine, frost
 - walnut, VII, 623; IX, 454, 851
 - in Washington, 1935-1936, VII, 874
 - wind, katabatic, and, IX, 87
 - to woody plants, IX, 850
 - X-rays to study, VII, 974
 - and fruit growing, VII, 622; IX, 457
 - glazed, in England, January 1940, X, 526
 - hardening mechanism in plants, VII, 871
 - hardiness—
 - dye absorption test for, VII, 873
 - in plums, VIII, 967; IX, 1211
 - protection—
 - in Algeria, IX, 1208; X, 92
 - by blowers, VII, 318; VIII, 1032; IX, 1343; X, 204
 - central heating, X, 204
 - chemical mists, I, 253; IV, 214, 215; IX, 1210

SUBJECT INDEX

- Frost, protection (*continued*)—
 citrus, *see* Citrus, frost protection
 cultural methods, X, 95, 204
 in Estonia, X, 970
 heaters, III, 91; IV, 215; V, 41, 583, 677;
 VI, 61-64, 475; VII, 316, 443, 631, 973,
 975, 976; VIII, 77-79, 530, 1031, 1033,
 1147; IX, 1208, 1210, 1344, 1346, 1347;
 X, 92, 204, 205, 527, 638, 968, 969
 humidified heat for, X, 969
 infra-red rays for, IX, 975
 for lemons, VI, 833, 845; VIII, 171, 181;
 IX, 1345-1347; X, 639
 oils and oil emulsions for, X, 94
 paper covers as, in vineyard, IX, 460;
 X, 528
 screens, X, 528
 spraying for, IX, 1209, 1210; X, 204
 steam, X, 204
 straw, in vineyard, IX, 460
 tents, IX, 1346, 1347
 for tomatoes, II, 358
 by training, VIII, 76, 404, 993; IX, 1345
 varietal limits of resistance, X, 966
 vine, *see* Vine, frost
 watering as means of, *see* spraying
 by whitewashing, VII, 440, 442
 wind machines, *see* by blowers
 against winter injury, X, 93, 94
 resistance—
 apple, *see* Apple, frost hardiness
 breeding for, X, 858
 Canadian research on, VIII, 305
 citrus, *see* Citrus, frost resistance
 correlated with seasonal growth stage,
 VIII, 74; X, 1414
 factors affecting, VII, 869, 870; VIII, 80;
 in fruit tree rootstocks, VI, 60
 limits of, X, 966
 of living plant cells, tests of, VI, 737
 peach, IX, 459; X, 965
 photoperiodicity and, VIII, 81; X, 1416
 in strawberry, V, 382
 rings in apples, VII, 626
 Frozen pack preservation, *see* Storage, frozen pack
 Fruit—
 of the Belgian Congo, VI, 919
 bud, *see also under* particular plant
 bud—
 fall, premature, VII, 32, 567, 877; VIII,
 1034; IX, 1170; X, 72
 formation—
 C/N ratio correlated with, VIII, 343,
 381
 and chemical composition of pear tree,
 VIII, 343
 and cultural practice, VIII, 985, 986
 daylength affects, VIII, 342
 in deciduous fruit trees, VIII, 380, 985;
 X, 62
 in small fruits, VI, 704
 soil moisture affects, V, 190
 thinning affects, V, 190
 winter hardiness and, VIII, 729
 microtechnique for winter, VII, 271
 temperature in apple, VI, 270; IX, 1165
 Burma, and cultivation, VI, 918
 by-products, VIII, 602
 chemical composition of, I, 72-74, 104, 106,
 107; VI, 6; VII, 771; VIII, 602
 chemical composition affected by rootstock,
 V, 172
 Fruit (*continued*)—
 colour—
 in apples, *see* Apple colour
 influence of sugar, N and ringing on, V,
 366
 consumption affected by imports, VI, 244
 crops—
 manual on, X, 1546
 manuring of, *see* Fertilizers
 uses for cult, IX, 681
 deciduous, in the sub-tropics and tropics,
 VI, 176, 920, 921
 diетetics, X, 1216
 diseases in Baluchistan, VI, 585
 dehydration, *see* Drying
 emanations from ripening, *see* Emanations
 from fruit
 fall—
 in apples, *see* Apple fruit drop
 and cell tension in vines, V, 571
 fertilizers and, X, 891
 premature, *see also* bud fall, III, 466;
 VII, 567, 719; VIII, 406; IX, 1167;
 X, 72, 73, 499, 500, 644, 891, 892, 1332
 in pears, VIII, 406
 spraying to prevent premature, X, 499, 500,
 891, 892, 1332
 flies—
 of Malaya, X, 1491
 S. Africain, VI, 90
 fly—
 biological control of, VIII, 206; X, 1373
 Chaetodacus spp., VI, 934
 the cherry (*Rhagoletis cerasi*), II, 255;
 IV, 75, 571, 572; VI, 92; IX, 116;
 X, (1378)
 control in N.S. Wales, VI, 89
 heat sterilization against, VI, 179; X, 559
 lures, VI, 91; X, 560
 the Mediterranean (*Ceratitis capitata*), V,
 256; VI, 149, 555; VIII, 206, 585;
 X, 990
 Mexican (*Anastrepha ludens*), V, 717;
 VIII, 1192
 vine, IX, 479
Fruit Grower, Empire trade number, IV, 502
 Fruitgrowers' Federation N.S. Wales Official Yearbook 1938/9, X, 442
 Fruit growing—
 in America, III, 136
 in Brazil, VIII, 1230
 in Burma, VI, 918
 in Canada, IV, 11
 in Ceylon, II, 290, 319, 373, 374; III, 95,
 228; V, 715; VI, 384
 development of scientific, X, 1264
 and ecology, VIII, 664
 hardy, manual on, I, 317; VI, 234, 977;
 IX, 1510, 1511; X, 1546
 important considerations in, IV, 9
 in India, VI, 584; VIII, 1354
 in Japan, IX, 408
 in Java, IV, 647
 in Kenya, VI, 176, 920
 in Libya, X, 45
 in Malacca, III, 227
 manual of, *see* hardy, manual
 in Morocco, IV, 154-156, 277; VI, 868;
 VII, 987
 in Patiala, VIII, 247
 in N. Rhodesia, III, 226
 in Prince Edward Island, Canada, X, 1306

SUBJECT INDEX

Fruit growing (continued)—

Revue horticole suisse, special number on, IV, 10
 in tropics and subtropics, IX, 282
 in Union of S. Africa, VIII, 308; X, 1305
 in Western Cape Province, S. Afr., X, 1305
 growth—
 in apple affected by atmosphere, VIII, 987
 dependent on root area, V, 348
 rootstock and, VIII, 974
 and hops, pests of, VII, 519
 H-ion concentration in, IV, 179
 industry—
 of N.S. Wales, II, 313
 of Western Australia, VII, 16; VIII, 957
 inspection by X-ray, VII, 159; VIII, 726
 juice, *see also* Juice and particular fruit
 juice conferences, VII, 797; IX, 1078
 juices and related products, IX, 687
 market diseases of, III, 185
 marketing, *see* Marketing
 maturity, *see* Ripening
 measure, the circumeter, VII, 158; X, 915
 Moroccan research on, IV, 154
 morphology in *Prunus*, VII, 22
 new or noteworthy, at Geneva, N.Y., III, 282
 organic acids from, VIII, 292
 origin of cultivated, V, 336
 planting—
 some considerations on deciduous, II, 131;
 IV, 9
 grubbed orchards, VI, 283
 precautionary measures when deciduous, I, 123, 124
 time of deciduous, V, 535
 position affecting quality, II, 225
 precooling of, V, 493; VIII, 312; IX, 303; X, 1227
 preservation—
 domestic, VII, 787
 by freezing, *see* Storage, frozen pack
 pressure gauges, manometer for, VIII, 897; X, 381
 processing and vitamins, *see* Vitamins affected by processing
 products, III, 420-422; IV, 142, 143; VIII, 903-907
 quality, orchard factors affecting, V, 337, 355, 356
 research—
 in Crimea, I, 322
 in Morocco, VI, 868
 in Mysore, VIII, 246
 in New South Wales, VIII, 356
 respiration in, *see also under* Storage, I, 8, 259; II, 166; V, 25; VI, 219; VII, 235
 respiration in tropical, VI, 219; VII, 235
 set—
 affected by C and N contents, VI, 463; VIII, 39
 in apple, *see* Apple fruit set
 and bactericides and fungicides, VIII, 760; IX, 887
 in cherry, VI, 678; VII, 292
 factors affecting, V, 23, 189; VI, 463; X, 883
 in mango, affected by spray, VIII, 251
 in pear, VIII, 684-686; IX, 1175
 in pecan, I, 169; VI, 725; X, (950)
 pruning and, IX, 1175
 soil moisture and, X, 1119
 and spraying, IV, 333, 568; VIII, 251, 760; X, 880, 884

Fruit (continued)—

size—
 in apples, *see* Apple, fruit size
 number of seeds and weight of spur leaves
 in apples, VI, 670
 and quality related to seed number, X, 65
 soft, bulletin on, IV, 499; VII, 249
 statistics, methods of preparation, X, 412
 storage, *see* Storage
 stored, volatile products from, *see* Emanations from fruit
 supplies in U.K. 1930, 1937 and 1938, I, 319; VIII, 1341; IX, 1516
 syrups, III, 420; IV, 142; VI, 605; VII, 777, 781, 782; VIII, 288-290, 903-907, 1327; X, 388
 transit and storage diseases, VI, 957
 transport to market, IX, 316
 tree—
 building, *see* Training fruit trees
 cropping failure, reasons for, IX, 455
 deciduous, rootstock propagation, *see* Rootstocks
 ecological differentiation, X, 480
 leaf roller (*Cacoecia argyrosila*), X, 1372
 nutrition, *see* Fertilizers
 shoots, mineral content of, X, 1322
 supports for, III, 476; VIII, 702
 trials at Wisley, *see* Wisley
 of Trinidad, native and introduced, X, 1203
 tropical—
 development, ripening and senescence, VII, 235
 internal gas concentrations, VII, 235
 physiology and chemistry, VII, 462
 respiration in, VII, 462
 and sub-tropical, list of, VIII, 1228; IX, 1325
 and sub-tropical, vegetative propagation of, VI, 616, 882
 vapour pressure gradients and water distribution in, VIII, 645
 vapours, *see* Emanations from fruit varieties—
 in Missouri, VII, 535
 in Sweden, VIII, 670
 in Texas, VII, 536
 of Transvaal, edible wild, X, 209
 vitamins in, *see* Vitamins
 washing, *see* Washing fruit
 waste, composition, VII, 771
 and their wild relatives, VIII, 357
 wines, *see* Wine, fruit
 Fruitfulness, CO₂ exchange rhythm and, VIII, 15
 Fruiting—
 acceleration in seedlings, VII, 543; VIII, 968; X, 1310
 affected by nitrogenous manuring, X, 71
 in citrus, *see* Citrus fruiting
 in grapefruit, precocious, III, 537
 growth affected by, V, 187
 in pear, physiology of, II, 27; IX, 800, 801
 Fuchsia—
 as commercial pot plant, VIII, 500
 propagation, IX, 175
 Fullarton, Govt. Exp. orchards, V, 4
 Fumes and vegetation, factory, X, 1266
 Fumigation—
 affected by temperature and humidity, V, 100
 of apples with methyl bromide, IX, 308
 avocado, VI, 879; VIII, 1172; X, 1156

SUBJECT INDEX

- Fumigation (*continued*)—
 with calcium- and sodium-cyanide and
 H_2SO_4 , IX, 892
 with carbon disulphide, V, 613
citrus, *see* Citrus fumigation
cucumber, IV, 243
 fresh fruit, VI, 98
 and fumigants, X, 238
glasshouse, IV, 85, 422; VI, 806; IX, 1284
HCN, *see* HCN
mushroom house, VI, 120
 with naphthalene, IV, 85; VI, 806
 with nitrogen trichloride, VI, 751
soil, X, 1064
 of stored articles, VI, 319; X, 317, 1218
 with sulphur, IV, 422
tea, VIII, 1202
 tents, V, 104, 451; VIII, 814; IX, 211
 of warehouses, VII, 1075
Fundamentals of fruit production, IX, 1510
Fungi—
 on apples in storage, IV, 292; VIII, 276, 586
 biological control of scale by, X, 647
 of citrus in store, VIII, 895
 of Cyprus, a first list of, VIII, 921
 edible, *see also* Mushroom, IX, 530; X, 421
 gall midges attacking, VI, 496
imperfecti, the *Sphaeropsidales*, IV, 501
 mould, affected by non-volatile compounds,
 VI, 958
Phytophthora, in Trinidad, VII, 175
 poisonous, X, 421
 of Southern Rhodesia, VIII, 1047
 in stored tropical fruit, VII, 1084
 in Ukraine, list of, X, 979
Fungicides, *see also* Sprays
Fungicides—
 a comparison of, IX, 489, 490, 492
 and apple storage, II, 413
 copper, *see also* particular types, III, 199, 331;
 IV, 243; VI, 750; VII, 352, 910; VIII,
 765; IX, 492, 493
 and fruit set, VIII, 760
 nitrogen trichloride as, VI, 751
 protective, X, 1374
 rubber, VII, 868; IX, 490
 and rubber budwood viability, II, 184
 sulphur—
 and photosynthesis, IX, 880-883
 Preparation E, IX, 121
 and set of apples, IV, 568
 zeolitic copper compounds as, VII, 910
Fungus—
 diseases—
 control of soil borne, VII, 893
 in England and Wales, 1928-1932, IV, 500
 and nitrogen, IX, 470
 flora on apple twigs, V, 392
Fusarium—
avenaceum on tulip leaves, IX, 1321
bulbigenum, X, 1113
niveum in water melons, VIII, 423; IX, 408, (893)
 root rot of cucumber, VIII, 1099
spp.—
 damping off caused by, VIII, 744
 in Greece, III, 37
 in pea, IX, 159
vasinfectum in sunn hemp, VII, 1008
 wilt—
 of musk melons, IX, (893)
 in tomato, immunity in *Lycopersicum*
 pimpinellifolium, X, (1400)
- Fusicladium dendriticum*, *see* Apple scab
Fusicoccum viticolum in vines, IX, 475
- Gage, floral bud of, II, 125
 Gall midges attacking fungi, VI, 496
 Galls produced by plant hormones, VII, 266
Gambia—
 Dep. Agric. A.R., 1936/7-1938/9, VIII,
 (1378); IX, (726), (1544)
 plants used in, VI, 197
Gambier production, IV, 275; VI, 579
Ganoderma lucidum on oil palm, VIII, 875
Garcinia—
atroviridis, IX, 283
mangostana, *see* Mangosteen
xanthochymus, VII, 466
Garden—
 fertility, IV, 2; V, 744
 the living, V, 744
 plants, genetics of, V, 158
 produce storage, X, (1588)
 of the Royal Horticultural Society at Wisley,
 IV, 1
 rubbish as manure, X, (1588)
Gardener, the skeptical, X, 768
Gardenia, chlorosis in, IX, 940
Gardening—
 dry land, IX, 24
 in East Africa, V, 745
Garlic—
 effect of animal hormones on, VIII, 633
 production, IV, 597; VIII, 774; X, 589
Gartenbau der Welt, VIII, 1331
Gas—
 analysis apparatus, VII, 484
 emanation from stored fruit, *see* Emanations
 fuel from cherry stones and walnut shells, X, 759
 illuminating, plant growth affected by, II, 362
 injured trees, treatment of, VI, 625
 storage, *see* Storage, gas
Gaseous exchange, IX, (754)
Gases in plant tissues, analysis, VII, 34
Geisenheim am Rhein Versuchs u. Forschungsanstalt
 A.R., 1930-1933, 1935-1937, II, 99; III,
 434; IV, 498; VI, 990; VIII, 1351; IX,
 697
Genetics—
 antirrhinum, IX, (181)
 of apples, *see also* Apple breeding, IV, 159;
 IX, 1150
 application to horticulture, VIII, 361
 cacao, II, 71; III, 396
 cucumber, VIII, 131
 of garden plants, V, 158
 grape vine, *see also* Vine breeding, VII, 863;
 X, (950)
 Musa, *see also* Banana breeding, III, 254;
 V, 726
 mutations, artificial inducement, II, 315
 pear, IX, 1151; X, 483
 raspberry, IX, (1187), X, (1338)
Gentian, germination and seedlings of, IV, 95
Georgia agric. Exp. Stat. A.R., 1936/7-1937/8,
 VIII, (1378); IX, 698
Georgia, U.S.S.R., tea growing in, II, 281
Geotropism, IX, (405)
Geranium—
 as commercial pot plant, VIII, 500
 fertilizers for, IX, 608
 mutants, VIII, 611
 oil, VI, 169; VII, 228; VIII, 610-612, 1115

SUBJECT INDEX

- Geranium (continued)—**
 planting machinery, **IX**, 607
 polyploid production, **VIII**, 769
 propagation, **VIII**, 610; **IX**, 175
- Gerbera**, mites on, **IX**, 947
- Germany**—
 fruitgrowing since 1880 in, **IV**, 334
 horticultural research in, **IX**, 338
 medicinal and spice plants in, **VIII**, 156
- Germination**—
 affected by growth substances, *see* Growth substances and seeds
 capacity, staining tests, **VII**, 825
 in lettuce, **IX**, 509, 517-519; **X**, 154
 of pome and stone fruit without dormant period, **IX**, 41
 in rubber, **IX**, 264
 in stone fruits, **VII**, 20; **IX**, 41
 studies, **I**, 26; **III**, 287; **IV**, 83; **VII**, 20
- Ghent**, growth substances trials at, **VIII**, 940
- Gibberella pulicaris**, **IX**, 936
- Gingelly**, *see* Sesame
- Ginger**—
 cultivation, **III**, 403; **IV**, 468, 685; **VI**, 913; **VIII**, 236, 1222, 1223
 curing, **IV**, 685; **VIII**, 1222, 1223
- Ginkgo biloba** propagation, **VIII**, 629
- Ginseng** (*Panax quinquefolium*), root rot of, **V**, 223
- Gipsy moth** (*Poputhetria dispar*), parasitism and control, **III**, 44; **IX**, (506)
- Girdling**, *see* Ringing
- Gladiolus**—
 bacterial diseases, **VII**, 956
 in Bermuda, **IX**, 1522
 chromosome number, **VI**, 356
 corms, **IV**, 605; **VIII**, 518; **IX**, 557, 956
 forcing, **III**, 79; **V**, 81
 growth periodicity in, **VII**, 167
 parthenocarpy induced in, **VII**, 421
 pests, **VIII**, 168
 potash manuring, **IX**, 1318
 storage temperature affects growth, **VII**, 422
 thrips (*Taeniothrips gladioli*), **V**, 254, 660, 661; **VI**, 130; **VII**, 147
 varieties, **VIII**, 167; **IX**, 955
- Glass**—
 light transmissibility of, **I**, 118
 ultra-violet ray, **II**, 3
- Glasshouses**—
 in Arctic, **VIII**, 1082
 atmospheric control, **IV**, 237, 238
 CO_2 in, **IV**, 237, 238, 590, 591; **V**, 247; **VIII**, 1080
 construction, **VIII**, 117; **IX**, 1286
 copper poisoning in, **VI**, 107
 crops, developments, **III**, 61; **IV**, 586
 experiments, layout of, **X**, 1029, 1303
 fumigation, **IV**, 85, 422; **VI**, 806; **IX**, 1284
 heating, **III**, 176, 349, 437; **IV**, 84, 593; **V**, 81; **VII**, 11; **VIII**, 1077; **IX**, 131
 on a mixed farm, **IX**, 510
 physiological disorders in crops, **IV**, 242
 plants, watering of, **X**, 1032
 research at Cheshunt, *see* Cheshunt
 rose culture, **IX**, 552
 soil heating, **III**, 176; **IV**, 84
 soils, a mixer and sampler, **X**, 581
 sulphur injury, **III**, 177; **IV**, 422
 symphytid, **III**, 364; **V**, 413
 in U.S.S.R., **IX**, 131, 207
 vegetable crops, **X**, 1024, 1025
 viruses, **VI**, 68
- Gliricidia**—
sepium as fencing, **VIII**, 876
 as support for growing plants, **IX**, 257; **X**, 269, 440
- Gloeoedoes pomigena**, **III**, 375; **V**, 99, 450; **VII**, 645; **1042**; **VIII**, 745; **X**, 643
- Gloeosporium**—
album in stored apples, **IX**, 1058
musarum, **V**, 729; **X**, 1210, 1519
perennans, **III**, 333; **IX**, (1234); **X**, 108
- Glomerella cingulata**, *see also* *Colletotrichum gloeosporioides*, **VIII**, (1072)
- Glycerine** used in packing plants, **X**, 1072
- Glypta rufiscutellaris**, parasite of oriental fruit moth, **X**, 1002
- Gnomonia** spp. on pecan, **IV**, 224; **V**, 219
- Gnorimoschema lycopersicella**, **VII**, 940
- Goat manure**, **VIII**, 549
- Gold Coast**—
 agricultural development in, **II**, 418
 Cocoa Res. Station Tafo 1st A.R. 1937/8, **IX**, 699
 Dep. Agric. Rep. 1936/7 and 1937/9, **VIII**, (1378); **X**, (450)
- Golden rod**, *see* *Solidago*
- Gooseberry**—
 anthracnose, **VI**, 306; **VIII**, 443
 × black currant hybrids, **X**, 927
 breeding, **VIII**, 53, 412
 the Chinese (*Actinidia chinensis*), **VII**, 304
 cultivation, **VI**, 45; **X**, 1339
 fertilizers, **IX**, 69
 fruit bud formation, **VI**, 704
 Glendale, **II**, 263
 in Holland, **IX**, 406
 hybrids at Mleev, **VIII**, 412
 leaf—
 infection inheritance, **V**, 397
 scorch, **III**, 47
 magnesium deficiency in, **X**, 1352
 manual, **VIII**, 55
 pests, **VIII**, 467; **IX**, 868
 ripening, ethylene and, **VIII**, 581
 root studies, **III**, 154
 rust (*Aecidium grossulariae*), **VII**, 899
 sawfly, **VI**, 315
Streptomyces plusiiformis a pest of, **VIII**, (467)
 in U.S.S.R., **VIII**, 357, 412
 variety trials, **VII**, 589
 vegetative propagation, **VIII**, 56
- Gourds**—
 heading back, **IX**, 521
 selection, **X**, 597
- Grading**—
 apples, *see* Apple grading
 cherries, **V**, 563
 citrus by X-rays, **VII**, 159
 deciduous fruit, **V**, 309; **VI**, 699
 light affects, **VIII**, 591
- Graft hybrids**, *see* Chimaeras
- Grafting**—
 apples, *see* Apple grafting
 approach, of coffee, **VIII**, 561
 bridge, *see* Bridge grafting
 cacao, **V**, 699
 callus knot formation, **IV**, 167
 citrus, twig, **VII**, 967
 cleft, **VII**, 918
 coffee, *see* Coffee grafting
 fruit trees, Japanese articles on, **I**, 336; **III**, 446
 growth substances and, *see* Growth substances and vine

SUBJECT INDEX

- grafting (continued)—
 to induce flowering, X, 29
 melon to alter time of flowering and fruiting, IX, 76
 monocotyledons, X, 475
 overgrowth control by wedge, IV, 520
 peas, VIII, 7
 porcupine, *see* Frameworking
 potato with tomato, VIII, 782
 razors, IV, 322
 ring, and stock effect in apples, V, 365; VI, 259; VII, 832
 root piece, V, 536; VII, 412; VIII, 561
 rubber, III, 108
 stub, *see* Frameworking
 technique, *see also different methods*, IV, 165, 166; VI, 616, 652, 655; VIII, 918; IX, 44; X, 947, 1313
 twig, of citrus, VII, 967
 vines, *see* Vine grafting
 in virus investigations, II, 148
 walnuts, VIII, 721; IX, 454
 wax, VI, 652; IX, 1156; X, 861, 947
 wedge, IV, 520
- Grafts—
 disease relationships in, VI, 251
 layering of root, in apple, VIII, 969
- Granadilla—
 cultivation, *see also* Passion fruit, VI, 370; VIII, 1231; IX, 588
 packing, VIII, 592
- Grape, *see* Vine
- Grapefruit—
 canning, V, 312
 chemical composition of, VII, 161; IX, 576
 chlorosis, V, 442
 citrus scab on, VIII, 1159
 cold injury in store, IX, 1475; X, 356, 357
 colouring, VIII, 1367
 cultivation—
 in Palestine, IX, 189
 in Sahara, VIII, 522
 in Sicily, II, 215
 at Sukhum, U.S.S.R., VIII, 1127
 in Trinidad, I, 171; V, 434; IX, 192; X, 201
 in U.S.A., IX, 192
 diseases, V, 269; VIII, 1159
 diseases of stored, VI, 599
 frost resistance, IX, 574
 and growth substances, VIII, 937
 gummosis of, V, 98
 juice, lactic acid from, X, 752
 magnesium deficiency, IX, 576, 1342
 manuring, V, 434; X, 201, 202, 1127
 Marsh Seedless, IV, 101; V, 98; VI, 363, 838; IX, 198, 566, 576, 578, 1326
 mottle leaf in, VII, 979; VIII, 532
 naringin in, IX, 578
 new variety, IV, 252
 pectic substances in, IX, 578
 pitting in storage, IX, 578
 precocious fruiting, III, 537
 pulling versus clipping, VI, 858
 rind composition, VI, 838
 ripening, IX, 198
 rootstocks, II, 367; IX, 566
 scab, IX, 581
 seedlessness in, VI, 363; IX, 576
 storage, VI, 219, 407, 599; VIII, 280-282, 1367; IX, 578, 1472-1475, 1482; X, 356, 357, 1231
- Grapefruit (continued)—
 Triumph, IX, 566
 varieties, VII, 707
 vitamin content, I, 414
 Walters, IX, 566
 wrappers for fruit, IV, 677; VI, 407; IX, 1482
- Graphium ulmi*, *see also* Elm disease, V, 572
- Grapholitha*—
inopinata, VII, 75
molesta, *see also* *Cydia molesta*, IV, 74; VII, 74; VIII, (467), X, 561, 1002, (1378)
- Grass effect on fruit tree growth, I, 231; IV, 187
- Grasshopper—
 control, IX, 1250
 glasshouse (*Tachycines asynamorus*), IX, (929)
- Gravity, perception of, by roots, III, 4
- Grease banding, *see* Banding
- Great Britain, agricultural research in, VIII, 1380
- Greece, olive growing in, III, 133
- Green gram (*Phaseolus aureus*), IX, 1050
- Greenhouse, *see* Glasshouse
- Green manures, *see* Fertilizers, green manures
- Grenada Dep. Agric. A.R. 1938, X, (450)
- Grevillea* as windbreak, VIII, 185
- Grewia asiatica* pruning, VIII, 1247
- Griffith, N.S.W., citrus research at, IV, 250; V, 668
- Griphosphaera corticola*, IX, 949
- Gross-Öttersleben, fruit research at, VIII, 677
- Groundnut (mainly *Arachis hypogaea*)—
 the Bambarra (*Voandzeia subterranea*), I, 300; X, 1147
 bleaching, II, 44
 cultivation—
 in Burma, II, 190
 in East Africa, VI, 588; X, 709
 in India, III, 407
 in Mysore, III, 570; VII, 1043
 in Senegal, II, 189; VII, 216
 in South Africa, economics of, IX, 999
 in Texas, VI, 289
 cultural treatment, VII, 469
- environmental factors affect composition in, VIII, 1236
- fruiting in, VII, 217
- fungi, VIII, 1237
- nutritional levels, VIII, 572
- oil, V, 319
- as oil plant, II, 190; VIII, 155
- origin and spread of, VI, 184
- rosette, VII, 469; X, 1207
- soils, IX, 1035
- storage, VII, 483; VIII, 899
- varieties, III, 569
- Growth—
 affected—
 by carbon dioxide, I, 326; VI, 627
 by ethylene, V, 520
 by fruiting, V, 187
 by hormones, VI, 4, 5
 by hydrogen ion concentration, IV, 179, 364
 by leaf area, IV, 332
 by light and/or temperature, *see also* Daylight, Photoperiodicity, etc., I, 243; II, 316; III, 64-67, 71; IV, 3, 316, 317; V, 66, 67, 245, 519; VI, 532, 538, 631-633, 816; VII, 804-806, 861; VIII, 621; X, 604, 1108
 by manganese deficiency, III, 218, IV, 240; V, 639
 by moisture supply, I, 137
 by moon, VI, 979; IX, 1126

SUBJECT INDEX

Growth, affected (*continued*)—
 by previous crop, V, 538
 by soil treatment, I, 136, 238, 273; II, 381;
 III, 13; IV, 509
 under controlled conditions, I, 113, 114;
 VII, 273, 815; VIII, 12
 differential, auxin test for, X, (821)
 distribution affecting stock influence, IV, 176
 factors, effect on green plants, X, 453
 foliage leaf, II, 355
 and fruit bud formation, II, 327, 328; III, 156
 hormones, *see* Growth substances and
 Hormones

inhibition—

due to fruit emanations, *see also* Emanations, VI, 600, 601; VIII, 327, 920; IX, 1459
 nature of correlative, VIII, 6
 initiation affected by chemicals, III, 152, 293, 526; V, 520, 521; VI, 45, 123, 124, 429, 624, 626, 639; VII, 255-269
 measurement, V, 550; VII, 158; VIII, 383; X, 915
 pH of medium affects, VII, 526
 -phase concept, vernalization and, X, 462
 and productivity, II, 326
 -promoting substances, *see* substances
 in relation to water-supply, VIII, 11
 of seedlings, relation between germination and, IV, 83
 stages, temperature affects length of, VIII, 74
 and stimulation, VIII, 4

Growth substances. N.B.—This section includes all references to auxins, and particular growth substances such as indolylacetic acid, indolylbutyric acid, naphthaleneacetic acid. Specific references in the title to such substances will also be found separately indexed. For other references *see* Hormones

Growth substances—

absorption and movement from soil as shown by plant tops, VI, 626
 absorption and translocation, VIII, 617
 acetylene, VI, 123
 acids, esters and salts as, VII, 818
 activity, comparative, IX, 1105, 1111
 adenine, X, 453
 in agar, X, 816
 aneurin, *see also* vitamin B₁, X, 942
 animal hormones, VIII, 633
 apple stock inoculation with, VIII, 743
 in applied botany, IX, 1
 and *Arctostaphylos uva-ursi*, IX, (1121)
 and *Aucuba japonica*, VIII, 940
Avena coleoptile tests, VIII, 318, 323, 618, 619; X, (460), (821)
 bacterial production, VII, 266; VIII, 941, IX, 19, 20; X, 8, 16, 17
 and bean plants, VIII, 331-334, IX, 363, (1121); X, 7, (460), 800, 801, (1284)
 and bean seeds and seedlings, X, 7, 1282
 for bilberry cuttings, IX, 1188; X, 449, 1341
 bios group as, X, 1275
 for black currant cuttings, X, 925
 blossom, IX, 7, 8; X, 29, 454
 boron interrelation with, X, 817
 branching affected by, VIII, 627
 and *Brassica* meristems, X, 1281
 and cabbage, VIII, 938; X, (460)
 calaines, VIII, 7, 319
 and callus formation in wounds, IX, 735

Growth substances (*continued*)—
 cambial activity, VIII, 338
 Canadian research, X, 780
 carbon dioxide as, X, 18
 carbon monoxide as, III, 152, 293
 and celery, IX, 12
 and cell tissue, VIII, 620, 625; IX, 14
 chemical, several, V, 521
 cinnamic acid, IX, 1107
 and citrus, VI, 4; VIII, 320, 631, 931, 937, 942
 and coffee, VIII, 558, 1206; X, 438, 1179, 1451
 comparison of different, IX, 1111
 conference at Kew, VIII, (636)
 crown gall bacteria produce, VII, 266; VIII, 941; X, 16, 17
 and cuttings, *see under particular plant*
 and date palm flowering, IX, 1436
 and deciduous fruit cuttings, *see* and fruit tree cuttings
Dematiu pullulans requirements of, VIII, 340
 distribution in seedling stems, VIII, 329
 and dry matter production, IX, 15
 effect on carbohydrate of bean plants, IX, 363
 effects vary with different species, VIII, 328
 electrical polarity and auxin transport, IX, (369)
 environment and, X, (460)
 and ericaceous plant propagation, VIII, 934; X, 1107
 estimation, IX, 1118, 1120; X, 1276
 ethylene as, V, 520; VI, 123
 ethyl mercuric phosphate as, X, 15, 802
 for evergreen and soft wood deciduous cuttings, X, 798, 799, 1279
 extraction, VIII, 935; X, 815
 in form of dust, IX, 354; X, 780
 in form of vapour, IX, 1100-1102
 form in which given, IX, 1105
 formation by bacteria, VIII, 941; IX, 19; X, 16, 17
 and French horticulture, VIII, 949
 fruit development affected by, IX, 1436; X, 1060, 1067
 and fruit tree cuttings, VII, 827; VIII, 930; IX, 45, 776
 in fruits, auxin distribution in, IX, 1110
 gall production by, VII, 266; VIII, 743
 Ghent experiments, VIII, 940
 for grapefruit, VIII, 937
 for green plants, external, VIII, 317
 green tissue test, objects for, IX, 358
 and growth initiation, IX, 4
 and *Helianthus*, VIII, (943); IX, 356
 and *Helichrysum rupestre*, VIII, 940
 in *Heliospopsis laevis*, IX, 2
 heteroauxin, *see* Heteroauxin
 and holly, VIII, 933
 honey as, IX, 737
 for hops, IX, 931
 hormodin, VIII, 634; IX, 732
 horticultural importance, VII, 255, 256; VIII, 5; IX, 733, 1098
 hydrocarbon gases, unsaturated, III, 526
 indolyl-acetic-acid, *see* Heteroauxin
 indolyl-butyrlic acid, *see* Indolyl-butyrlic acid inhibiting effects, VII, 819; VIII, 6, 623; IX, 359, 1099, 1114-1117; X, (460), 804, 813
 and *Iresine lindenii*, VIII, 336, 940
 Italian work on, IX, 734
 and Kudzu cuttings, IX, 365

SUBJECT INDEX

Growth substances (*continued*)—
 lanoline as, VII, 851
 lemons and, VI, 4; VIII, 942
 and lettuce seed, VIII, 1074
 light—
 and dark affect response to, VII, 264;
 VIII, 621
 and gravity affect action of, IX, 357
 stability, X, 818
 and lilac, IX, 4
Lilium and, VIII, (943)
Lonicera tatarica and, X, 13-15
 and lupin, VIII, 626; IX, 7, 13
 manuals on, VIII, 1337, 1338; X, 1545
 in marine plants, X, 456, 1277
 masking effect of, IX, (1121)
 and melons, X, 1060
 methylene blue as, IX, 6
 (-4-methylthiazolyl-5)-alanine, X, (1284)
 and *Mirabilis jalapa*, VIII, (943)
 mixtures, effect of, X, 796
 mode of action, IX, 355, 361
 and *Morus alba*, VIII, 940
 mosses as, IX, 734
 movement in plants, IX, 1103, 1104
 naphthalene-acetic-acid and naphthalene
 acetamide, *see* Naphthalene
 naphthalene compounds, comparative effects
 of, X, 800, 801
 nature of stimulation by, IX, 731
 new methods of applying, IX, 3
 nicotinic acid, X, 453, (1284)
 and nitrogen nutrition of plant, X, (460)
 and Norway spruce cuttings, X, 5, 10-12,
 802, 803
 not themselves plant nutrients, VI, 639
 for oat seeds and seedlings, X, 7
 and olive, IX, 5
 and ornamentals, VIII, 330; IX, 11, (1121);
 X, 13
 and parthenocarpy, VII, 421; VIII, 337, 635,
 944; IX, 736, (1121), 1332; X, 811, 812,
 (821), 889
 and pea seedlings, IX, 359; X, (460)
 pea test for, VIII, 326
 and pecan rooting, IX, 360, 843; X, 85
 and photoperiodism, VII, 264; IX, 7, 13, 946;
 X, (460)
 and photosynthesis, VII, 264; X, 457, 810,
 1278
 and phototropism, X, 474
 plant growth affected by, VI, 429
 and plant metabolism, X, 795
 of plant origin and not of plant origin, VI, 639
 and pollen germination, X, 455
 and potatoes, IX, 366; X, 6
 premature sprouting induced by, VIII, 939
 pretreatment with alcohol before using, X,
 799
 production by roots in vitro, X, 814
 and *Prunus* spp., X, 860
 purine, X, 453
 and radiation, VIII, 936; X, 809
 reaction of leafless, woody cuttings to, VIII, 2
 and rest period in fruit trees, IX, 430
 result of repeated treatment, VIII, 937
 review of work on, IX, 353, 1098, 1112; X,
 3, 794
 riboflavin as, X, 1273
 rôle—
 in different organs, IX, 730
 in propagation played by, X, 3

Growth substances (*continued*)—
 root cuttings, regeneration by, IX, 362;
 X, 1272
 and root formation, VI, 124; VIII, 3; IX,
 1106; X, 1280
 root response to, VI, 624
 in root tips, production, IX, (1121)
 and rooting of cuttings, trials, VII, 258, 261,
 262, 816; VIII, 629, 632, 940; IX, 5, 11,
 732; X, 4, 9, 15
 rootone, X, 447
 and seed damaged by formaldehyde, IX, 16;
 X, (460)
 in seed dressings, X, 19
 and seeds, VIII, 339, 1074; IX, 1, 3, 9, 10,
 (369), (1121), 1293; X, 7, 805-808, (1283)
 shoots or roots induced by, IX, 729; X, 796
 and shrubs, IX, 11, (1121)
 in *Solidago*, rôle in leaf development, VII,
 259
 in solution and vapour form, IX, 1100-1102
 spraying to prevent fruit drop, X, 499, 500,
 891, 892, 1332
 and stock (*Matthiola*) seedlings, VIII, 622
 and storage organs, IX, (1121)
Stratiotes aloides and, VIII, 939
 and sub-tropical fruit plants, VIII, 634, 931,
 932; X, 1137
 sugar as, X, 15, 802
 sugar necessary for auxin action, VIII, 616
 talc as carrier of, IX, (1121), X, 15
 and tea, IX, 1014; X, 254, 1280
 test—
 fungus needs, VIII, 340
 technique, VIII, 618
 testing chamber, IX, 1119
 and tobacco, VIII, 621, 624
 and tomato, VII, 122; VIII, 335, 633; IX,
 356, 364, 1293; X, 1066, 1067
 in tomato roots, IX, 1108
 and *Tradescantia fluminensis*, IX, 367
 for transplanting trees, IX, 360, 843; X, 85
 trials—
 at Kew, X, 4
 at Wisley, VII, 258; X, 9, 795
 tropic responses to, IX, 356
 and tropical plants, VIII, 634; X, 1161
 use under vacuum, X, 819
 vegetables and, VIII, 633
 and *Viburnum tinus*, VIII, 940
 for vine cuttings, IX, 5, 834; X, 459, 1346
 and vine grafting, VIII, 62, 431, 630; IX, 1, 5,
 1200
 vitamin B₁ as, VIII, 942; X, 453, (460), 820,
 1274, 1280
 vitamin C as, X, 1273
 and *Vitis agnus castus*, VIII, 940
 and water plants, X, 20
 and willow cuttings, VIII, 2
 yeast, VI, 124; VIII, 324, 325
 and yield, IX, 12, 1113
 Grubbed orchards, planting, VI, 283
Gryllotalpa control, VIII, 458; X, 221, 1583
Gryllus assimilis on strawberry, VIII, (467)
 Guarana, V, 122; VI, 980
 Guava—
 fruit fly control, VI, 179
 fruits, respiration in, VII, 462, 1082
 heat sterilization of, VI, 179
 jelly, IX, 1506
 storage, VII, 462, 1082
 in U.S.A., IX, 588

SUBJECT INDEX

Guayule rubber plant, IV, 643; VIII, 870; IX, 594;

X, 1144, 1145

Gully control, X, 1296

Gun—

arabic in Somaliland, VIII, 1368

chewing, V, 483

disease in stone fruits, III, 40; V, 186

in grapes, wound, II, 141

in peaches, II, 141; V, 186; VIII, 82, 83

in plums affects canning, VIII, 1316; X, 1528

source of, in Ceylon, X, 312

Gummosis—

in cherries, IX, 1222

in citrus, see Citrus gummosis

Gymnosporangium spp. on apple, VII, 898; IX, 472, 1233, (1234)

Gypsum—

as fertilizer, V, 93; VII, 53; IX, 531

phosphate problem in soil, V, 481

Hadar, 10th anniversary number, VIII, 524

Haiari root as source of insecticide, see *Lonchocarpus*

Hail, vine damage, see Vine, hail damage

Hairy root (*Phytomonas rhizogenes*), IV, 375, 376; VI, 481

Hall, Sir Daniel, essays presented to, X, 1264

Halle Institute, fruit research work of, VIII, 677

Haltica ampelophaga, VIII, 453; X, 556

Hambletonia pseudococcina, X, 1509

Handbook, see Manual

Hapalosphaeria deformans, III, 501

Haplophyton cimicidum as insecticide, VIII, 1192

Hardiness—

affected by activity of growth processes in citrus, X, 1414

in apple, see Apple frost hardiness

dye adsorption test for, VII, 873

in lemon, factors affecting, IX, 205; X, 1125, 1126

polyploidy and, VI, 794

rootstock influence on, in apples, VIII, 976

varietal, in Switzerland, IX, 459

in walnut, relation of geographic strain, V, 575

Hardy—

fruitgrowing, manuals on, I, 317; VI, 234, 977; IX, 1510, 1511; X, 1546

fruits, variety trials of, II, 318

varieties grown in Canadian N.W., X, 1559

Harvesting, endless wire system for bananas, VI, 398

Hawaii—

agric. Exp. Stat. A.R. 1937-1939, VIII, 1352; IX, 1534; X, 776

ecological survey, X, (674)

fruits of, VII, 754

Hawkes Bay fruitgrowing, IX, 761

Hawthorn—

dwarf seedlings, IV, 519

for hedging, selection, VII, 64

rust, *Gymnosporangium globosum*, VII, 898

Hazel nut, I, 360, 361; V, 210; VI, 59

HCN—

spirometer, V, 103

citrus fumigation with, II, 53; IV, 110, 440, 618, 619; V, 100-104, 449, 451; VI, 148, 864; VII, 169, 731, 986; VIII, 813, 815, 816; IX, 209, 211-213, 585, 1353, 1358

effect on cucumber of, IV, 243

HCN (continued)—

fumigation, II, 53; IV, 110, 243, 440, 618, 619; V, 100-104, 449, 451; VI, 98, 120, 148, 319, 864, 879; VII, 169, 731, 986, 1075; VIII, 813-816, 1172, 1202; IX, 209, 211-213, 585, 892, 1353, 1358; X, 238, 317, 1218

recovery from citrus leaves, IX, 1353

Health and disease in plants, IV, 586

Heat—

damage to grapes in field, X, 530
radiating panels, VII, 4, 5, 269; VIII, 949
effect on tomato pigment, IV, 139

Heaters, orchard, see Frost protection heaters

Heaths—

as commercial pot plants, VIII, 500

Phytophthora cinnamomi on, VI, 822; VII, 958; VIII, (1123)

Heating—

of glasshouses or frames, see Glasshouse heating

industrial wastes used for, X, 1030
of soil, see Soil heating

Heda fertilizer lance, III, 301; IV, 189, 587; IX, 67

Hedera helix propagation, VIII, 629

Hedges—

in Canada, I, 252

grubbing, VII, 39

hawthorn, VII, 64

ornamental, in Florida, X, 174

plant for tropics, *Pithecellobium dulce*, VII, 172

Helianthus—

hypocotyl, heteroauxin affects, VIII, (943)
nutrient deficiencies and growth hormones, VIII, 624

tuberosus, see Artichoke, Jerusalem

Helio-hothouses in U.S.S.R., IX, 207

Heliosia laevis, growth substance in, IX, 2

Heliothis armigera as citrus pest, VIII, 1163

Heliothrips haemorrhoidalis, VII, 984

Heliotrope as commercial pot plant, VIII, 500

Helopeltis—

bergrothi, III, 236; IV, 116

in cacao, control, X, 1192

Hemicellulose carbohydrate metabolism in *Vitis vinifera*, IX, 449

Hemileia vastatrix on coffee, VII, 1023; X, 1571

Hemp (*Cannabis sativa*)—

boron affects growth in, IX, 1310

breeding, VII, 949

diseases, VIII, 724

nutrition of, VII, 399; VIII, 798

pests, VIII, 724

physiology of development, X, 1104

Hemp, Manila (*Musa textilis*)—

bunchy top of, IV, 627

mosaic, V, 118; IX, 1010, 1388

stem rot, V, 119

vascular disease, IX, 1009; X, 680

Henna (*Lawsonia inermis*), IX, 1025

Heracleum lemannicum, source of anethole, VIII, 299

Herbicides, see also Weeds, IV, 79, 80; V, 252, 400,

401; VI, 352; VIII, 461, 1076; IX, 503,

1252-1254; X, 617, 1007, 1503

Herbs—

cultivation, IV, 82; VI, 238, 328, 767, 768;

VII, 398

Dutch report on industry, VIII, 793

medicinal, in Ceylon, VIII, 862

Hercothrips fasciatus, VIII, 491

SUBJECT INDEX

- Hertfordshire, commercial horticulture in, III, 60
 Hesperides, golden apples of, X, 189
 Heteroauxin, *see also* Growth substances
 Heteroauxin—
 and bean plants, VIII, 331, 333, 334; IX, 363, (1121); X, 7, (460), (1284)
 boron interrelations with, X, 817
 and *Brassica* meristem growth, X, 1281
 and cabbage, VIII, 938; X, (460)
 and cambial activity, VIII, 338
 and cell pigment, IX, 14
 and cell walls, VIII, 620, 625
 and citrus cuttings, VIII, 320, 631, 931
 estimation of, colorimetric methods, IX, 1118
 estimation in soils, X, 1276
 and grafting, IX, 5
 growth promoting or growth inhibiting ?, VII, 820
 and *Helianthus*, VIII, (943)
 and inhibition of bud growth, X, 804
 and *Iresine lindenii*, VIII, 336
 K salt, activity of, VIII, 323
 and *Lilium*, VIII, (943)
 and *Lonicera tatarica*, IX, 14
 and *Lupinus albus* seedlings, VIII, 626
 and *Mirabilis jalapa*, VIII, (943)
 nature of stimulation produced by, IX, 731
 and Norway spruce, X, 802, 803
 and orange cuttings, VIII, 631
 and ornamental cuttings, VIII, 330
 induces parthenocarpy, VII, 421; IX, 736; X, 812
 and photosynthesis, X, 457, 810, 1278
 plant growth affected by, VI, 429
 and pollen germination, X, 455
 and potato tubers, IX, 366
 premature sprouting induced by, VIII, 939
 and propagation of cuttings, VII, 261; VIII, 940; IX, 5; X, 15
 and respiration pigments of cells, IX, 14
 seed treatment, IX, 10; X, 7
 causes shoot production, IX, 729
 and stock seedlings, VIII, 622
 and sub-tropicals, VIII, 931
 and tomato plants, VIII, 335; IX, 364
 and transplanted pecans, IX, 843
 and vine grafts, VIII, 630
 and wheat seedlings, IX, (369)
- Heterodera, *see also* Eelworm
 Heterodera—
 marioni—
 in *Areca rubra*, X, 1195
 in pineapple, V, 730; VII, 478
 restriction by fungus, IX, 1381
 in tomato, IX, (547)
 in vines, VII, 83
 schachtii and pea sickness, IV, 413; V, 250; VI, 349, 522; VII, 687; VIII, 786
 Heterosis in tomato, VII, 382

Hevea, *see also* Rubber
 Hevea—
 brasiliensis, proteins, X, (1258)
 first discoverers of, VII, 206
 seed oil for cakes, VII, 248; VIII, 608

Hexosamine in pineapple, IX, 1046
Hibiscus rosa-sinensis, IV, 123; IX, 1052
 Hickory leaves, rare earths in, VIII, 1025
 Hillsborough agric. Res. Inst. (N. Ireland) A.R. 1938/9, IX, (1544)
Hippeastrum, vegetative propagation, VII, 702
Histiostoma rostro-serratum, VI, 526

Histology—
 of apple fruits, X, 1321
 of cranberry, III, 50
 Hog plum (*Spondias cytherea* or *dulcis*), VI, 180
 Holdings in the tropics, VIII, 1183
 Holland—
 fruits grown in, IX, 406
 possible fruit trade with East Indies, IV, 278
 Holly, propagation and growth, III, 525; VIII, 933
Homoptera-Diaspididae, VIII, 192
Honckenya ficifolia; V, 296
 Honey—
 fungus (*Armillaria mellea*), VII, 644; X, 1176
 as growth substance, IX, 737
 plants of U.S.A., X, 876
 Hong Kong Supt. Bot. A.R. 1937-1938, VIII, (1378); IX, (1544)
 Hop—
 breeding, VIII, 154
 Cladosporium disease, VI, 518
 cultural treatments, X, 1091, 1093
 cultural trials, VII, 697
 cuttings, IX, 6, 931
 diseases, IX, 352
 downy mildew (*Pseudoperonospora humuli*), VI, 520; VII, 699, 947; IX, 542, (938)
 drying, VI, 517; VII, 698
 "English grown Americans," IX, 929
 growing in U.S.A., X, 1398
 growth substances for rooting, IX, 6, 931
 industry, the, IV, 493; X, 1091
 manuring, II, 264; VI, 516; VIII, 791; IX, 168
 mites and insects found on, VI, 489; VIII, 791
 morphology, IX, (938)
 mosaic, VIII, 791
 mutation rate affected by heat, X, 1094
 nettlehead, IX, 855, 934
 pests of fruit and, VII, 519; VIII, 748
 pickers' tokens, IX, 932
 picking, mechanical, X, 169
 preservative value, VII, 695
 production—
 in Oregon, X, 1092
 in U.S.A., X, 1090
 propagation by cuttings, IX, 6, 931
 red spider (*Tetranychus telarius*), VIII, 791; IX, 543, 937
 research at East Malling, X, 168
 root weevil (*Epipolaeus caliginosus*), VIII, 748
 rootstock canker (*Gibberella pulicaris*), IX, 936
 Sclerotinia wilt, VI, 519
 seed germination, IX, (938)
 soils, IX, 930
 varieties, VI, 515; VII, 695, 696; VIII, 791; IX, 541, 929, 1307, 1308
 Verticillium wilt, VI, 521; VIII, 791, 792; IX, 855, 935
 weight variation in bushel, IX, 933

Hoplocampa spp., *see also* Apple and Plum sawfly, II, 258; III, 191, 205, 346, 509; IV, 76, 228, 392, 393; V, 229, 239; VII, 905, 906; VIII, 756-758, 765, 1070; X, 1003

Hoppers, tree, IV, 225
 Hormodin, VIII, 634
 Hormonal theory of plant development, IX, 7
 Hormones—
 and plant growth, *see also* Growth substances, etc.
 alcohol extraction of growth, X, 815
 analysis of growth due to, IX, 355
 animal, and vegetable growth, VIII, 633

SUBJECT INDEX

- Hormones (continued)—
 in Bermuda, use of plant, **IX**, 1522
 blossom inducing, *see* florigen
 caline type of, **VIII**, 7, 319
 for carnation propagation, **IX**, 1315
 concentration, nutrient deficiencies and, **VIII**, 624
 effect on crotch angles in apple trees of plant, **IX**, 1168
 in dust form, **IX**, 354; **X**, 13
 esters as plant, **VII**, 265
 in ferns, inhibitions due to, **VIII**, 623
 florigen or flowering, **IX**, 7, 8; **X**, 29, 454
 follicular and other, **VI**, 5
 galls produced by plant, **VII**, 266; **VIII**, 743
 horticultural importance of plant, **VII**, 255, 256; **IX**, 1098
 inhibitive effects, **X**, 813
 leaf growth, **IX**, (1121)
 light affects, **VIII**, 621
 in *Nicotiana*, **VIII**, 621, 624
 and parthenocarpy, **X**, 811
 penetration of cuttings, determination of amount, **IX**, 1120
 photoperiodism and formation of growth, **IX**, 13
 physiologic curve of response to plant, **VIII**, 339
 production of growth, in *Aesculus* and *Malus*, **VII**, 260
 and propagation from cuttings, **IX**, 728
 response induced by capping tops, **IX**, 1122
 root cuttings, regeneration of, by plant, **IX**, 362
 as root determiners, **IX**, 361
 and root formation, **VIII**, 318
 and root formation in stem cuttings, **VI**, 4; **VII**, 258; **IX**, 17; **X**, 13
 for rubber propagation, **IX**, 1421; **X**, 281
 seed dressings, incorporated in, **X**, 19
 tests, chamber for, **IX**, 1119
 tests in rooting of greenwood cuttings, **IX**, 17
 and tomato, **IX**, 1293
 use in plant propagation, **IX**, 18, 1112
 vernalization and formation of growth, **IX**, 9
 in woody cuttings, transport of root-forming, **VII**, 257
- Horse radish—
 cultivation, **VIII**, 120
 diseases, **VII**, 110
- Horticultural—
 aspects of woolly aphid control, **VI**, 982
 Education Association—
Yearbook, *see* Scientific Horticulture
Occasional Publication, Nov. 1939, **X**, 434
 produce, keeping qualities, **III**, 593
 organizations and periodicals of the world, list, **VIII**, 1332
- Horticulture, world, **VIII**, 1331
- Hortomone A and coffee cuttings, **VIII**, 558
- Hot beds—
 and cold frames, **V**, 241; **IX**, 131, 738
 electric heating of, **I**, 220; **II**, 321, 322; **III**, 66, 349, 437; **IV**, 589, 593; **V**, 81, 167; **VI**, 510, 805; **VII**, 11, 279, 402, 807, 808; **IX**, 132, 738; **X**, 1140
 thermo-fertil for heating, **X**, 582
 in U.S.S.R., **IX**, 131
- Hothus corniculatus* sown prevents soil erosion, **X**, 1139
- Hot water treatment of plants, *see under* object treated
- Houghall Record, 1938, **IX**, 694
- Humidity—
 control—
 cabinet for, **VIII**, 14
 by H_2SO_4 , **VII**, 273
 and fumigation, **V**, 100
 measurement of atmospheric, **IV**, 466
- Humus—
 action on roots, **VIII**, 639
 affects available phosphorus, **X**, 829
 biologically active, **VI**, 643
 from cane trash, **VI**, 374
 the Indore process, *see* Indore process and orcharding, **VI**, 279
 from tea waste products, **V**, 463
 from town and village waste, **VIII**, 922
 in vegetable garden, **VIII**, 790
 in viticulture, **VI**, 723
 water-soluble, and plant growth, **VIII**, 9
- Hura crepitans*, the sandbox tree, **X**, 272
- Hyacinth—
 bulbs, size: chemical composition, **IX**, 1319
 bulb storage temperature requirements of, **III**, 80; **VI**, 529; **VII**, 415, 416; **VIII**, 520
 effect of illuminating gas on flowering, **II**, 362
 flower formation, **VIII**, 166
 modifications induced by temperature, **VI**, 529; **VIII**, 520
 optimal temperature from flower formation to flowering, **III**, 80
 in the tropics, **IX**, 957, 1522
- Hyalopterus pruni*, **VIII**, 104, 105
- Hybridization, *see* Breeding
- Hydnocarpus oil, **II**, 180
- Hydrangea—
 as commercial pot plant, **VIII**, 500
 nutrient deficiency symptoms, **IX**, 180
 propagation—
 cuttings, **IX**, 17, 175
 growth substances for, **IX**, 17
 from leaf cuttings, **VII**, 139
- Hydrocyanic gas, *see* HCN
- Hydrogen-ion, *see* pH
- Hydrogen—
 sulphide injury to plants, **VII**, 327
 swells studies, **X**, 1526
- Hydroponics, *see* Water cultures
- Hydrotropism in Mediterranean plants, **VIII**, 637
- Hygiene, orchard, **V**, 392; **VI**, 309
- Hygrometer, soil, *see also* Soil moisture measurement, **V**, 282
- Hygrostat, a Russian, **X**, (42)
- Hylobius abietis*, a tree pest, **IX**, 102
- Hypotheoe ventricosa*, **III**, 247
- Hypnum sericeum*, root promoting properties of, **IX**, 734
- Ice formation in plants, **IX**, 462
- Illinoia pisi*, **VI**, 117; **VII**, 135, 395
- Illinois—
 agric. Exp. Stat. A.R. 1935/6-1936/7, **VIII**, 1353; **X**, 777
 strawberry growing in, **VII**, 42
- Illipé nuts, **IV**, 280; **VIII**, 899
- Illustration Stations, Canada, progress report, part II, 1935-38, **X**, 1559
- Imperata arundinacea*, **VII**, 1003; **IX**, 272, 291
- Imperia, annals of olive research station at, **III**, 435

SUBJECT INDEX

Imperial—

- Agricultural Research Institute, N. Delhi,
Scientific Reports, X, (450), (1589)
Bureau of Fruit Production, *see* Bureau of
Horticulture and Plantation Crops
Bureau of Horticulture and Plantation Crops,
Occasional Papers, Nos. 3 and 5, IV, 696;
VIII, 615
Bureau of Horticulture and Plantation
Crops, Technical Communications Nos.
3-5 and 7-13, III, 137, 270; IV, 149;
VI, 616, 982; VII, 1120; VIII, 1379;
IX, 687, 1098; X, 772
Bureau of Horticulture and Plantation
Crops, work of, VI, 242; X, 793
College of Tropical Agriculture A.R. 1935/6-
1938/9, VII, 1113; VIII, (1378); IX, (726);
X, 1584
College of Tropical Agriculture, survey of
work at, I, 381
Council of Agricultural Research, India,
A.R. 1939/40, X, 1572
fruit show, 1931, II, 1
Institute advisory councils and consultative
committees, VIII, 660
Implements used in Dutch East Indies, IX, 1004
Import and export legislation, *see* Quarantine, plan
Imports of fruit, effect on prices, VI, 244
Inarching—
 deciduous fruit trees, VI, 657; VII, 25;
 IX, 777, 1177
 lemons, II, 278
Inbreeding, reasons against, IX, 40
Incising deciduous fruit trees, VI, 282
Incompatibility—
 in cacao, *see* Cacao compatibility
 in cherry, VII, 564
 in citrus, stock:scion, VI, 831
 climatic influence on, V, 537
 in deciduous stocks and scions, VI, 440;
 VIII, 31
 in fruit trees, a review of the literature, VII,
 1120
 of peach with rootstocks, VIII, 679
 in pears, V, 537
 in stone fruits, VII, 1120
 in walnuts, III, 173
Incurvaria rubiella, IV, 573
India—
 agricultural operations in 1931-2, VI, 991
 agriculture in 1928-30, II, 59
 agriculture and animal husbandry, VIII, 1354;
 IX, 1535; X, 1571
 Govt. Dep. Educ. Health and Lands,
 6th Report, X, 1573
 rubber in, II, 76
Indian Farming, first number, X, 790
Indian Tea Association sci. Dep. A.R. 1935-1938,
VI, 992; VIII, 310; IX, 703; X, 435
Indigofera endecaphylla, II, 384
Indo-China—
 rubber in, IX, 259, 262
 tea growing in, IV, 631
Indol derivatives, effect on plants, *see also* Growth
substances, etc., VII, 263, 817; VIII, 635
Indoleacetic=Indolylacetic acid, *see* Heterauxin
Indolyl butyric acid—
 apple stock inoculation with, VIII, 743
 and evergreens, X, 1279
 and holly cuttings, VIII, 933
 and *Lupinus albus*, VIII, 626
 and pecan rooting, IX, 843

Indolyl butyric acid (*continued*)—

- and rooting of cuttings, VIII, 632; IX, 732
and tomato, VII, 122
and transplanted pecans, IX, 843; X, 85
and tropicals and sub-tropicals, VIII, 634;
X, 1161
Indore—
 process for waste products, *see also* Composts,
 I, 422; V, 684; VI, 374, 430
 Progr. Rep. Inst. Plant Industry, 1937/8,
 IX, (1544)
I.N.E.A.C., *see* Institut
Infra-red injury to fruit, VIII, 645
Inheritance of sodium-induced variations, III, 356
Injection—
 branch, VII, 605-607
 for chlorosis, VIII, 1040
 for diagnosis of mineral deficiencies, IX, 433
 for diagnostic and curative purposes, manual
 of, VIII, 1379
 of fertilizer into soil, *see* of soil with fertilizers,
 and fruit composition, VII, 294, 295
 of fruit trees, IV, 191, 192, 349, 354; V, 193-
 195; VI, 454, 455; VII, 294-295, 601-611,
 887; IX, 432, 433; X, 894
 and keeping qualities, VII, 611
leaf, VI, 454; VII, 601-603; VIII, 1379;
 X, 894, 1391
 manual on plant, VIII, 1379
 as physiological method, IX, 432
 of soil with fertilizers, I, 246, 347; III, 301;
 IV, 189, 587; IX, 67; X, 833
 of spray concentrates, IX, 889
 whole tree, VII, 608
 of zinc, *see* Zinc
Insects, *see also under name and Pests*
Insects—
 beneficial, IX, 1251; X, 120
 of citrus—
 and other sub-tropical crops, X, 1263
 in S. Rhodesia, III, 540
 in tropical Asia, III, 377
 of flower gardens, IV, 601
 forecasting incidence, II, 137
 found on hops and fruit trees, VI, 489
 leaf-feeding, on shade trees, IX, 117
 in Mauritius, V, 607
 noted by East Malling 1939, X, 990
 olive, IV, 578
 of Pacific North West, III, 503
 pests in England and Wales 1932-4, VI, 307
 proof waste fruit pits, V, 634, 717
 resistance of plants to, I, 159
 toxins, injuries due to, IX, 1235
 vegetable, III, 74
 vegetable diseases relation to, VIII, 1083
 as virus or disease vectors, III, 187, 188;
 IV, 61, 217; V, 214, 215, 390; VI, 67, 478,
 895, 896; VII, 88, 635, 637; VIII, 1058,
 1083; IX, 95
 visitors to fruit blossoms, I, 144, 244; III, 19,
 20, 465; IV, 42; V, 545; IX, 802
Insecticidal plants, *see also particular plants*, IX,
234; X, 239, 1267
Insecticides, *see also particular insecticides, pests*
 and sprays
Insecticides—
 at East Malling, IX, 494
 fish poison plants as, III, 585; IV, 625;
 V, 113; VI, 884; VIII, 554; IX, 128
 -fungicides, *see* Sprays, fungicide-insecticide
Haplophyton cimicidum, VIII, 1192

SUBJECT INDEX

- Insecticides (*continued*)—
 injection of, IX, 889
 in Jamaica, VII, 735
 materials of vegetable origin, a survey, X, 1267
 naphthalene derivatives as, IX, 122
 nitrophenols as, IX, 122
 notes on progress with, IX, 119, 1255
 in Nova Scotia, IX, 496
 organic compounds as, VII, 911
 phenothiazine, VII, 674
 spray concentrates, IX, 889
 thiocyanates as, IX, 122
 in Trinidad, VIII, 1191
- Insekiller, the, II, 345
- Initia* plums, I, 121
- Institut pour l'étude agronomique du Congo Belge (I.N.E.A.C.) A.R. 1934, 1935, and 1938, VI, 241; VII, 252; X, 436
- Intermediate day plants, IX, 743
- International horticultural congresses, I, 110; III, 431; V, 517; VIII, 929
- International yearbook of agricultural statistics, III, 432
- Inter-sterility in apples and pears, V, 180
- Introduction of crops into tropics, II, 187, 314
- Iodine—
 control of *Botrytis* on grapes, IX, 474
 as fertilizer, III, 351; IV, 239; VII, 370
 fungal waste control by, VI, 407
 -starch as apple maturity test, IV, 529;
 VI, 453
 in tea, VII, 189
- Ionized air and growth, VIII, 16
- Iowa agric. Exp. Stat. A.R. 1930/31 and 1936/7-1938/9, II, 311; VIII, 1355; IX, 705; X, 1574
- Ipomoea batatas*, see Potato, sweet
- Iraq, plants and plant products in, IV, 267
- Ireland, oil plants in, VIII, 795
- Iresine* and growth substances, VIII, 336, 940
- Iris—
 borer (*Macronoctua orusta*), VI, 132
 breeding, VII, 143
 bulbous—
 comparison of young organs of different, VII, 145
 cultivation, V, 79, 80; VI, 810
 eelworm (*Ditylenchus dipsaci*), VIII, 519;
 IX, 183
 flower formation and growth of bulbs, VIII, 165, 166
 flowering accelerated in, VI, 809; VII, 146
 Spanish, var. Imperator, VIII, 164
 varieties, VII, 144, 146
 hybrids, VII, 143
 thrips (*Brematothrips iridis*), VIII, 521
tingitana, forcing, V, 80
- Iron—
 absorption by citrus from magnetite, X, 193
 :chlorophyll ratio in chlorotic pear leaves, III, 454
 deficiency, *see also* Chlorosis, III, 218; IV, 353, 615; VII, 602-604; VIII, 1078; IX, 1341; X, 193
 fertilizers, VIII, 650
 in grapes and wine, VIII, 596
 in pineapple plant, IV, 477
 and plant growth, VII, 369; VIII, 650
 in plant sap, II, 127; IV, 180
 salts, injection to cure chlorosis, I, 257; V, 194, 195; VII, 61; VIII, 1039, 1940
- Irradiation—
 of lettuce seedlings, IX, 1274
 of stored apples, IV, 669
 of vegetables, IV, 592
- Irrigation—
 of apples, *see* Apple irrigation
 boron in water of, V, 192
 of cantaloupe, VI, 711
 of citrus, *see* Citrus irrigation
 of coconuts, VI, 929
 cork in apples affected by, IV, 352
 cover crops and, V, 559
 and drainage, V, 555
 of farm crops, VII, 106
 fertilizers and, II, 28; VII, 105, 583
 of flowers, VIII, 1081
 furrow, a small brick, IX, 25
 of horticultural communities, II, 336
 of lemons, I, 372; VI, 847
 of mandarins, VIII, 178
 measuring water for, VI, 39, 456
 melons and oil-bearing plants, VIII, 347
 and moisture requirements, VII, 36; X, 905
 in North Africa, X, 905
 orchard, V, 555-559
 overhead, *see also* overhead, III, 475; V, 197; VIII, 46, 550; IX, 402; X, 38
 in Palestine, IV, 512
 of pears, IV, 198
 with porous hose, V, 557, 558
 of potatoes, IX, 1272
 of prune, V, 27
 pumping systems, V, 527
 with saline water, VII, 164
 of small fruit, VI, 710; VII, 40, 41
 by spraying, *see* overhead
 of strawberry, IV, 545; VI, 713
 sub-irrigation method for nutrient solutions, VII, 275
 of tomato, V, 419, 420; VIII, 1101
 underground, VIII, 1081; X, 37
 overhead, of citrus, VIII, 528
 of vegetables, V, 65, 411; VIII, 1081
 of vines, *see* Vine irrigation
 a water lifter, X, 1431
 well, deep, IX, 749
 in Western Transvaal, X, 39
 and wind in citrus growing, VIII, 1146
- Isère, walnuts in valley of, VIII, 1020
- Italian agriculture, manual, VIII, 919
- Italy—
 citrus—
 diseases, III, 222
 oil industry, III, 265
 production, III, 529
 Clementine orange in, IX, 562
 fruit growing in Northern, IX, 1144, 1145
- Ivory palm, the vegetable (*Hypotheche ventricosa*), III, 247
- Jaboticaba (*Myciaria cauliflora*) in U.S.A., IX, 588
- Jack fruit (*Artocarpus integrifolius*), VI, 386; VIII, 602
- Jaggery storage, IX, (1483)
- Jam, residual SO₂ in, V, 513
- Jamaica Dep. Agric. A.R. 1935, 1937-1938, VII, 1114; IX, (726); X, 1575
- Jamburi stock, V, 90
- Japan—
 agricultural and horticultural research, IX, (754), 961

SUBJECT INDEX

- Japan (*continued*)—
 mandarin oranges in, VII, 962
 pyrethrum cultivation in, VIII, 109
 tea in, VIII, 223
- Japanese—
 beetle (*Popillia japonica*), IV, 582-585; V, 238, 613; VI, 98, 758; VII, 81-82
 citron propagation, IV, 608
 flowering crab apples, IV, 17
 fruits, IX, 408
 morning glory, haploid in, III, 78
 pear, III, 295; IV, 536, 537
 persimmon, *see* Kaki
 plum, IV, 158
 wood oil tree, V, 457
- Jasmine (*Jasminum grandiflorum*), VIII, 1113
- Jatropha curcas, IV, 642
- Jau jumur, a desert starch plant, X, 224
- Java—
 agricultural education in, VIII, 1185
 Besoeki tobacco soils, VIII, 850-852
 drainage of tobacco soils, VIII, 850
 erosion studies in, VIII, 1186
 fruit growing in, IV, 647
 medicinal plants in, IX, 258
 products of, II, 76, 280; IV, 647
 Raung soils, VIII, 851
 report on visit to, IX, 1090
- Jersey Ctee. of Agric. A.R. 1936-1937, IX, 706
- John Innes Institution—
 A.R. 1938-1939, X, 437, 1576
 record of work 1910/1935, VI, 993
- Jointed cactus (*Opuntia aurantiaca*), II, 143
- Jowar and moisture exchange, VIII, 642
- Judas tree (*Cercis siliquastrum*), rootgrowth, VIII, 637
- Juglandaceae, *see also* Walnut
- Juglandaceae—
 classification, VIII, (1024)
 flower morphology and wood anatomy, IX, 453, 1204
- Juglans—
cinerea, seedling production in, VII, 313
regia—
 natural regeneration of, VIII, 69
 var. *racemosa*, VIII, 1022
- Juice—
 apple, *see* Apple juice
 blackberry, VIII, 904
 black currant, VIII, 904; X, 1249
 canning of fruit, VI, 227; VIII, 902; X, 387, 750
 cherry, VII, 506; VIII, 904
 citrus, *see* Citrus juices
 clarification of, III, 421; V, 514; VIII, 1327; X, 744, 745
 concentrates and concentration, III, 420; VI, 604; VIII, 289, 290; X, 746, 747, 1247, 1248
 cull fruit, utilization for, IX, 681
 flash pasteurization, IX, 678, 1485
 grape, *see* Vine grape juice
 grapefruit, lactic acid from, X, 752
 lime, VI, 609; VII, 708
 loganberry, VIII, 904
 making—
 conferences on fruit, VII, 797; IX, 1078
 and preservation of fruit, III, 420; IV, 298; VI, 225; VII, 797; VIII, 288, 601, 903, 905, 1317; IX, 681, 1078, 1085, 1486, 1487; X, 386-388, 748
 mandarin, IX, 329
- Juice (*continued*)—
 orange, *see* Orange juice
 pineapple, IV, 476, 680; X, 1270
 raspberry, VIII, 904
 storage under CO₂ pressure, X, 386, 748
 strawberry, VIII, 904; X, 1249
 sulphuring fruit, X, 1244
 tomato, VI, 230; VII, 508, 509
 tropical fruit, VIII, 1317
 turbidity caused by frost, X, 749
 vegetable, IX, 1079, 1085
 vitamin C in fruit, X, 1249
 wood suitable for holding fruit, V, 515
- Jujube (*Zizyphus jujuba*)—
 grafting, IX, 1042
 in U.S.A., IX, 588
- June berry (*Amelanchier*), VIII, 998
- Jute—
 fibre composition, VII, 400
 potash deficiency in, VIII, 798
 in U.S.S.R., X, 668
- Kaki (*Diospyros kaki*)—
 composition, VIII, 602
 cultivation—
 in Italy, IX, 991
 in Japan, VIII, 1180; IX, 961
 in Java, VI, 369
 in North Africa, IX, 990
 and origin, IV, 442
 in U.S.A., X, 1424
 cuttings, root, VII, 733
 flower types, III, 92
 metaxenia in, IV, 443
 pests, X, 1263
 pollination, VII, 989; IX, 455
 processing, II, 298, 410
 respiration in, I, 179; II, 166
 ringing to reduce fruit drop, IX, 1364
 ripening in, I, 179
 rootstocks, IV, 174; IX, 961; X, 1146
 tannin cells in, VII, 33
- Kakothrips robustus on pea, VIII, 146
- Kalanchoe blossfeldiana, soil for, IX, 951
- Kale, growth substances and, IX, 361
- Kapok (*Ceiba pentandra*)—
 botany and agronomy, VIII, 1193
 budded versus seedling, X, 679
 cultivation—
 in Indo-China, X, 245
 in Java, II, 280
 in Tanganyika, VIII, 1193
 as living fence, VIII, 876
 pests and diseases, VIII, 899, 1193
 propagation, IV, 626; VIII, 220, 1194; X, 679
 rainfall and, VI, 892
 topworking, VIII, 1194
- Kapuskasing Dominion exp. Stat., results of experiments 1931-1936, IX, 707
- Karaganda steppe, hardy fruit varieties grown in, X, 481
- Karassia plum stock, X, 486
- Keeping qualities, *see* Storage
- Keladi, *see* *Colocasia esculenta*
- Kelsey spot of plums, VII, 320, 886
- Kent, fruit soils on Lower Greensand in, IV, 692
- Kentville Dominion exp. Stat., results of experiments 1931-1936, IX, 708
- Kenya—
 coffee in, VIII, 1340
 deciduous fruit growing in, VI, 176, 920

SUBJECT INDEX

- Kenya (continued)—**
- Dep. Agric. A.R. 1935 and 1937-1938, VI, 994; IX, (726); X, 438
 - essential oils in, II, 94
 - pyrethrum in, VIII, 462; IX, 610
 - wattle growing in, II, 198
- Kerosene effect on vegetables, VI, 351**
- Ketchup, tomato, VII, 783**
- Kettering experimental plot, III, 281**
- Kew, growth substances conference at, VIII, (636)**
- Khamsin wind damage, VI, 476**
- Kidney tea plant (*Orthosiphon stamineus*), VI, 580**
- Kirton, experiments with bulbs at, IX, 182; X, 181-186**
- Kitul, storage, IX, (1483)**
- Kniffin trellis system of training vines, VIII, 719**
- Knight, Thomas Andrew, in memoriam, X, 1**
- Knol khol, see Kohlrabi**
- Kodur—**
- citrus nursery, technique at, X, 190
 - Fruit Res. Stat. A.R. 1936/7, VIII, 1357
- Koetwinkangoen, conditions in, V, 115-117**
- Kohlrabi, IX, 143; X, 308**
- Kok-saghyz, a rubber plant, IX, 278, 996, (1427)**
- Kola (*Cola* spp.)—**
- cotyledon colour, V, 707
 - manual on, V, 747
 - vegetative propagation, IV, 119
- Konnyaku of Japan, III, 75**
- Körnik, rootstock investigations at, IX, 779**
- Kudzu (*Pueraria* spp.)—**
- cultivation, IV, 113
 - growth substances and, IX, 365
- Kumquats, VI, 826**
- Kweme nut (*Telfairea pedata*), VII, 757**
-
- Labiatae, effect of fertilizers on essential oil content in, VIII, 515**
- Labiates in the tropics, IX, 227**
- Labidostomis taxicornis, a vine pest, VIII, 753**
- Labour—**
- agricultural, in tropics, V, 279
 - requirements, Californian, seasonal, IX, 750
- Lactic acid from grapefruit juice, X, 752**
- Lactuca sativa, see Lettuce**
- Lalang grass—**
- effect—
 - on coconut palms, IX, 291
 - on rubber trees, IX, 272
 - eradication, VII, 1003
- Lampropoma rubiella, X, 990**
- Lancashire, commercial horticulture in, IX, (507)**
- Land—**
- reclamation by caper, X, 616
 - Settlement Association, horticultural work of, IX, (507)
 - tenure in tropics, II, 375; III, 93, 225, 378
- Lange Ossekampen A.R. 1935 and 1938, VII, 251; X, 1577**
- Lanolin as wound dressing, VII, 851**
- Lanzon (*Lansium domesticum*)—**
- cultivation, VIII, 262
 - fertilizers, V, 136
 - marketing in Philippines, X, 1208
 - soil medium for seedling, X, 1204
 - storage of, VII, 494
- Laspeyresia—**
- funebrina*, VIII, 448; IX, 1245; X, (563)
 - nigricana*, VI, 815
 - pomonella*, see Codling moth
- Latex—**
- from clone and seedling rubber, IV, 646
 - coagulants for rubber, X, 406, (407)
 - creaming with, and vegetable mucilages, VIII, 298
 - physiology of, IX, 392
 - specific gravity, X, 762
- Latvia, Antonovka apple in, IX, 1147**
- Latvian forests, tree pests and diseases, IX, 102**
- Lausanne, Station fédérale d'Essais viticoles, A.R. 1930 and 1936-1937, II, 100; VIII, 1356; IX, 709**
- Lavatera thuringiaca, a fibre plant, X, 1399**
- Lavender—**
- cultivation, VI, 353; X, 619
 - pests, V, 430
 - Sophronia humerella* on, VIII, 512
- Lawsonia inermis, IX, 1025**
- Lay out, see Experiments**
- Layering, propagation by, see also particular plants, VIII, 647**
- Lead—**
- and arsenate spray damage, IV, 78, 569; IX, 216
 - arsenate, see Sprays, lead arsenate
- Leaf—**
- analysis—
 - and cacao nutrition, V, 479
 - to diagnose nutrient requirements, I, 245; III, 321-324; IV, 207, 371; V, 479, 700
 - of peach, plum and apricot, X, 671
 - apple, see Apple leaf
 - area—
 - :berry production in strawberry, VI, 715; VII, 859
 - in cherry, V, 21
 - in dicotyledons, VI, 620
 - and fruit size and composition, VI, 513; VII, 388; X, 939, 944, (950)
 - measurement, V, 333; VI, 638; VIII, 710
 - in peaches, II, 224, 226, 227
 - ratio of dry matter residue to, V, 187
 - carbohydrates in, III, 461; VIII, 678
 - CO₂ absorption by, III, 141; VIII, 345
 - chlorophyll in, VIII, 349
 - chlorophyll exchange in, VI, 253
 - in citrus, I, 370, 371; VII, 156
 - cooling by radiation, VI, 433
 - :crop ratio in coffee, X, 258
 - cuttings, see Cuttings, leaf
 - diagnosis, I, 245; III, 321-324; IV, 207, 211; V, 479, 700; VIII, 13, 950, 1010-1012; IX, 1131; X, 135, 136, 504, 839, 894, 1390
 - epinasty tests with chemical vapours, IX, 1102
- fall—**
- affected by street lights, VI, 633
 - in bananas, II, 407
 - in citrus, abnormal, VI, 853
- :fruit ratio—**
- effect on bloom and fruit in pears, V, 190; VII, 845
 - and quality of grape juice, X, 523
- functions in coffee, X, 259**
- growth hormones, IX, (1121)**
- hopper—**
- apple, see Apple leaf hopper
 - on citrus, control by whitewash, X, 1131
 - plum and peach, IX, (506)
- injection, see Injection, leaf**
- internal, exposed surface of, VI, 620**
- little leaf, see Little leaf**

SUBJECT INDEX

- Leaf (continued)—**
- mineral oil retention by, III, 337
 - peach, morphology of, VI, 673
 - and moisture exchange, VIII, 642
 - mulberry, cell sap of, III, 297
 - relations of fruit trees, V, 550
 - rhododendron, affected by temperature, III, 77
 - sampling technique, X, 840
 - scorch, I, 349; III, 46, 47; IX, 70, 94
 - solute absorption by, VII, 7
 - stomata on, *see* Stomata
 - temperatures, VI, 433; VIII, 643; X, (847)
 - in vines, development, III, 355
 - water movements in, X, 841
- Lecanium hesperidum* on citrus, IX, 209
- Lecythis* sp., VII, 213
- Leek fertilizers**, VIII, 470
- Leeward Islands**, developments in, III, 380
- Legislation—**
- agricultural—
 - in Ceylon, VIII, 835; IX, 1002, 1378
 - in Cyprus, VIII, 659
 - on fruit growing in Germany, IX, 1143
 - import and export, throughout the world,
 - see also* Quarantine, plant, X, 410
 - on pests and diseases in S. Africa, VIII, 107
 - on soil erosion, IX, 1379
- Legumes and boron deficiency**, VIII, 654
- Leguminous plants—**
- as green manure, VII, 521; VIII, 697
 - viruses of, X, (1086)
- Lemon—**
- Alternaria* in, effect of storage on, VI, 218
 - biology of, VIII, 1131
 - black pit (*Bacterium syringae*), X, 640
 - bud selection, I, 364; VII, 715, 965; IX, 1333
 - budding on mandarin as frost precaution, VI, 833
 - callusing in fruits affected by K, VI, 144
 - colouring—
 - affected by presence of mouldy fruit, X, 1233
 - artificial, IX, 1470
 - curing, VI, 365; IX, 1470
 - cuttings—
 - hormones in relation to rooting, VI, 4; VIII, 942; IX, 3
 - humidity effect on, VI, 830
 - phosphorus relations in culture solution, VI, 545
 - of rough, IV, 608
 - transpiration of, VII, 713; IX, 970
 - Deuterophoma tracheiphila* resistant, VIII, 1133, 1134
 - diseases affected by storage conditions, VIII, 1296
 - endoxerosis, VII, 445; VIII, 534
 - foliage:fruit size in, V, 675
 - frost protection methods, VI, 833, 845; VIII, 171, 181; IX, 1345-1347; X, 639
 - fruit growth and soil moisture, IX, 972
 - fruits, abnormal, III, 536
 - fumigation of, V, 101
 - grass, VII, 784; X, 310, 311
 - growing—
 - on Black Sea coast, varieties for, VIII, 1130
 - in California, economics of, IX, 186, 188
 - in California, investigations at Riverside on, VI, 541
 - under glass, IX, 207
 - in N. Zealand, VI, 540
- Lemon, growing (continued)—**
- in Palestine, summer lemon production, VIII, 1144; X, 1418
 - in Queensland, V, 673
 - in Sicily and elsewhere, V, 672
 - in U.S.S.R., dwarf forms for, VIII, 171
 - growth substances and, VI, 4; VIII, 942; IX, 3
 - hardiness—
 - affected by manuring, X, 1125
 - affected by soil moisture, IX, 205
 - increased by light restriction, X, 1126
 - irrigating, I, 372; VI, 847
 - juice, vitamin C in, IV, 435
 - leaves—
 - boron absorption by, VII, 720
 - sugar fluctuation in, X, 634
 - sulphate absorption by, VII, 720
 - sulphate absorption by, VII, 720
 - leguminous crops for, X, 1124
 - liming, V, 674
 - mal secco, *see also* Citrus, mal secco, VIII, 1133, 1134; IX, 978
 - manuring, V, 674; VI, 144; X, 1125
 - manuring affects hardiness, X, 1125
 - marketing, IX, 188
 - the Monachello, VIII, 1133, 1134
 - the Ovale, V, 84
 - and photosynthesis, VIII, 181
 - Phytophthora hibernalis* in, X, 1130
 - a pink-fruited, II, 157
 - potassium effects on callusing, VI, 144
 - pruning, II, 364; IV, 104; VI, 139
 - ripening and ethylene, VIII, 581
 - rootstocks for, IV, 430, 608; V, 257; VI, 541, 833, 834; VIII, 1133, 1134, 1137; IX, 968
 - rough, as rootstock, II, 275; IV, 608; V, 90; IX, 566
 - scale treatment on, V, 101
 - a seedless, VIII, 1132
 - scion selection, *see* bud selection
 - seedlings, over-wintering, IX, 573
 - size affected by soil moisture, VI, 844; IX, 972
 - soil moisture and fruit size, VI, 844; IX, 972
 - storage, VI, 218; VIII, 581, 1296; X, 358, 359, 1233
 - strains, improved, X, 1116
 - summer, production in Palestine, VIII, 1144; X, 1418
 - temperature sudden changes affect, X, 200
 - vitamin C in, VII, 1079
 - water requirements, VIII, 1143
 - wilting point, VIII, 1143, 1144
 - wind affects, VIII, 1145
- Lemnopis edule*, a fruit tree for dry tropics, IV, 1034
- Lenticels, apple**, VI, 23
- Lepidoptera**, fruit piercing, in Sierra Leone, VII, 736
- Lepidosaphes* spp., VII, 985; VIII, (467), 538, 812; IX, 209, 218, 1352; X, (648)
- Leprosy—**
- anti-leprosy species, III, 397; VI, 171; IX, 631, 632
 - treatment by *Cynometra* bark, III, 107
- Leptonecrosis in stone fruit**, VII, 66
- Leptothrix pomii*, VIII, 745
- Lethrus apterus*, pest of seedling trees, IX, (481)
- Lettuce—**
- boron affects growth of, VII, 368; VIII, 654
 - Botrytis* in, IV, 88; V, 645; VIII, 770
 - bottom rot of, IV, 598
 - breeding, VIII, 129; IX, 145

SUBJECT INDEX

- Lettuce (*continued*)—
 cabbage, VI, 333; IX, 143
Cheshunt experiments, VIII, 116; X, 1025,
 1026
 in cold frames, VI, 786
 colour factors in, IX, 145
 composition affected by manuring, VIII, 1076
 cultivation under various conditions, VI, 786;
 VII, 116, 926; IX, 130, 141, 144, 912;
 X, 153, 1025, 1057
 damping off, IV, 87
 downy mildew (*Bremia lactucae*), suscepti-
 bility to, IX, 142
 genetics of, VI, 112; IX, 145
 germination, IX, 509, 517-519; X, 154
 under glass, X, 1025, 1057
 irradiation of seedlings and, IX, 1274
 and light restriction, X, 1056
 light and temperature effect on, V, 66; VI, 112
 manuring, VIII, 1076; IX, 143, 1275, 1520;
 X, 1385
 marketing, VIII, 1095; IX, 130
 and microelements in culture solution, VIII,
 649
 mosaic, VIII, 150, 1086; IX, 913, 1276
 nitrogen nutrition of, IX, 1275
 nutrient deficiency symptoms, IX, 143, 910,
 911
 phasic development, X, 1056
 phosphate deficiency tests, VII, 117; IX, 910
 potash deficiency tests, IX, 911; X, 152
 quality and price of, VI, 784
 ring spot (*Marsannina panattoniana*), IX, 520
 rot, *Sclerotinia minor*, VIII, 477; X, 591
 in sand culture, X, 1057
 seed dormancy, V, 246; VI, 785; IX, 518;
 X, 154
 seeds, IV, 404; VI, 111, 785; VII, 376;
 VIII, 1074, 1075; IX, 517-519, 1520;
 X, 154
 solute absorption by leaves, VII, 7
 stalk investigations in cabbage, X, 151
 varieties, X, 590
 vitamins, VI, 334
 winter, VII, 116
Leucaena glauca, VIII, 876; IX, 228; X, 1456
Leucojum aestivum, anatomy of, VIII, 1120
Leveillula taurica of artichoke, VIII, 475
 Liberty Hyde Bailey hortorium, V, after 326
 Libraries, international directory of agricultural,
 IX, 1097
 Library—
 Department of Agriculture, N.S.W., IX,
 (1094)
 of Massey Agricultural College, periodicals
 in, IX, 1538
 of Ministry of Agriculture Lond., books and
 periodicals in, IX, 1093
 Libya, fruit and vine growing in, X, 45
Licania rigidia, II, 398; X, 273
 Lichen, tar oil for, VII, 677
 Light—
 absorption and spray deposits, IV, 368
 artificial, *see Artificial light*
 effect—
 on apples, II, 104; IV, 669
 on codling moth, IV, 72
 on cucumbers, VII, 929
 on flower bud in *Matthiola incana*, VI, 816
 on flowering, *see Artificial light*, use and
 effect of
 and frost resistance, X, 1416
 Light, effect (*continued*)—
 on growth, *see Growth affected by light*
 on lettuce, V, 66; VI, 112
 on lettuce seed, V, 246
 on K ion action, VII, 3
 on rubber content in *Solidago*, VI, 538
 on seed germination, VI, 532, 785
 on storage organs, II, 317; III, 1
 on strawberries, V, 32; VII, 306, 858, 861
 on tobacco, X, 1171
 on tomato, *see Tomato*, light effect
 on tubers, II, 317; III, 1
 fluorescent lamps as source of, X, 843
 intensity and photoperiodicity, VII, 525
 intermittent supplementary, X, (847)
 restriction increases hardness in lemons,
 X, 1126
 ultra-violet, *see Rays, ultra-violet*
 Lighting, street, and leaf fall, VI, 633
 Lightning—
 causes disease in coconut and rubber, III, 251
 injury to potato tubers, X, 1043
 strike on vines, IX, 852
 Lilac—
 propagation, VIII, 629; IX, 17
 as rootstock for olives, V, 10
 Lilium—
 formosanum, tetraploidy induced in, X, 1112
 longiflorum development of dormancy, IX,
 1323
 regale, bud development in, IX, 184
 spp.—
 germination and seedling production in,
 VII, 418
 growth substances and, VIII, (943)
 in Japan, IX, 408
 pollen longevity in, VII, 419
 Lily—
 bulb, *Penicillium* rot of, VII, 955
 Creole Easter, X, (1114)
 of the valley, linseed oil emulsion improves
 growth, IX, 512
 Lime—
 budding, VIII, 1135
 casein as emulsifier, VIII, 761
 cultivation—
 in California, II, 368
 in Jamaica, VII, 963
 effect on Satsuma orange composition, III,
 373
 as fertilizer, III, 373; V, 92, 674; VII, 53;
 VIII, 924, 1015; IX, 68, 896, 1191
 fertilizers for, VIII, 1140
 industry, the, II, 49
 juice, VI, 609; VII, 708
 as lemon fertilizer, V, 674
 oil of, VII, 1099
 -potash law affecting rose growth, IX, 1317
 potash requirements of sweet, VIII, 1140
 propagation, VIII, 1135; IX, 568
 root disease due to *Diapres*, VI, 857
 root systems of budded, VII, 964
 rootstocks for, VI, 832; VII, 964; VIII, 307;
 IX, 568; X, 1115
 storage of, III, 601; VI, 219
 sulphur, *see Sprays, lime sulphur*
 sweet, stocks selection of, X, 632
 the Tahiti, I, 172; VI, 832
 utilization of the, VI, 609; VII, 708
 in vegetable garden, VIII, 790; IX, 896
 for vines, VII, 53; VIII, 1015
Limnophilus lunatus, X, 1059

SUBJECT INDEX

- Linseed—
 economics, in Burna, X, (313)
 for English growing, X, (1588)
 oil plant in Italy, VIII, 155
 oil, as spray, I, 342; IV, 531; IX, 512
Liriomyza solana, VIII, 151, 1108
Listroderes obliquus, IX, (547)
Litchi (Nephelium litchi)—
 cultivation—
 in Bihar, investigations on, VIII, 1345
 in Queensland, suggestions for, V, 718
 in U.S.A., IX, 588
Deudorix pest of, IX, 284
 storage, X, 1238
- Little leaf or rosette in various fruit trees, I, 377;
 II, 240; IV, 354, 532, 615; V, 586-588;
 VI, 296, 727; VII, 321, 880, 881; VIII,
 733, 1036; IX, 466, 1214, 1215; X, 1355
- Living garden, the, V, 744
Lobelia, seed germination, VI, 532
 Location, effect on apple and pear, IV, 16
 Loganberry—
 anther and stigma blight (*Hapalosphaeria deformans*), III, 501
 beetle (*Byturus torretopterus*), II, 139; III, 207,
 208; IV, 226; V, 237, 406
 breeding and cytology, IV, 49
 cane maggot (*Phorbia rubivora*), V, 62
 cane spot (*Elsinoë veneta*), IX, 440, (830);
 X, 986
 canning, IX, 1492
 chromosome number, X, 922
 cultivation, V, 373
 juice, VIII, 904
 manual on, VI, 235
 origin of, X, 922
 propagation by leaf bud cuttings, IX, 440,
 830, 831
 in Sahara, VIII, 522
 spray residues, VII, 672
 strains, VI, 44
 training, IV, 360; IX, 440
- Lonchocarpus* as insecticide, V, 685; VI, 884;
 VII, 355, 998, 1000; VIII, 463, 756, 837,
 838; IX, 234, 516, 611
- Long Ashton Research Station—
 fruit breeding at, III, 280; IX, 767
 fruit products research, III, 420-422; IV,
 142, 143; VIII, 903-907
 the National Fruit and Cider Institute, I, 112
 soils of, VII, 576
- Longevity—
 affected by training, II, 337
 of plants, the, X, 1262
Lonicera tatarica, growth substances and, X, 13-15
Lophodermium pinastri, a forest tree disease, IX, 102
 Loquat—
 chemical composition of fruit, V, 358
 flowering and fruiting habit, VIII, 981
 in Liguria, II, 215
 morphology of flower and fruit, VIII, 40
 pollination, VIII, 982
 rootstocks, IV, 168
 in U.S.A., IX, 588
- Lorette pruning of figs, II, 338
 Louisiana agric. Exp. Stat.—
 biennial report, 1937-8, X, 439
 horticultural investigations, VIII, 661
 Low temperature effects on buds and flowers,
 X, 1359
 Low Temperature Res. Stat. Capetown, A.R. 1935/6-
 1936/7, VIII, 1256; IX, 1542
- Low Temperature Res. Stat. Trinidad, VIII, 1257
 Lubrication, olive oil for, IV, 300
 Lupin—
 breeding, VIII, 469
 as green manure, VIII, 871
 photoperiodicity and growth hormones in,
 VIII, 626; IX, 7, 13
- Lyamungu, *see* Moshi
Lychee, *see* Litchi
Lycopersicum esculentum, *see* Tomato
Lugus—
 pubulinus, III, 343; V, 236; IX, 487
 pratinensis—
 a pest of apple, IX, (1260)
 vector of spot rot in celery, IX, 146
- Lyonetia clerkella*, IX, 867
 Lysimeter work, VI, 248
 ▶ Lyssenko's method for seed pre-treatment, IV, 316,
 317
- Mabolo, the (*Diospyros discolor*), VIII, 1235
 Macaco nut (*Attalea speciosa*), IX, 633
 Macadamia (*Macadamia ternifolia*)—
 composition, X, 292
 cultivation—
 in California, suggestions for, X, 1206
 in Hawaii, IX, 640, 1534
 in N.S. Wales, IV, 555
 in Queensland, IV, 59; X, 291
 fruit development, X, 293
 oil production, VIII, 873
 processing, IX, 1495
 propagation, VIII, 874; IX, 1534
- Macaulay Institute of Soil Research, III, 138
 MacDougall, Daniel Trembley, X, 2
 Mace—
 pests of stored, VIII, 899
 volatile oil in, VI, 233
- Macrocentrus ancyllivorus*, parasite of oriental fruit
 moth, X, 1002, 1270
- Macronotia orusta*, VI, 132
- Macropiper methysticum* wilt disease, VI, 395
Macropsis trimaculata, IX, (506)
Macropsiphon solanifolii, IX, 900; X, 101, 992
Macrosporium commune causes pear rot, VIII,
 1053
- Madagascar—
 flora, X, 673
 introductions into, II, 187
- Madras—
 Dep. Agric. sub. Officers A.R. 1936/7-1938/9,
 VIII, 1358; IX, (1544); X, (779)
 Dep. Agric. Rep. on operations, 1936/7-
 1938/9, VIII, (1378); IX, (1544); X, 778
 Rep. of work on agricultural stations, 1937-
 1938, IX, 1536
- Magnesium—
 deficiency—
 in apples, X, 960, 962
 in cauliflower, X, 1052
 in citrus, IX, 575, 576, 845, 1341, 1342
 in deciduous fruit trees, IX, 846; X, 961,
 1352
 in peaches, VII, 879
 in prunes, III, 456
 in vegetable crops, V, 638; VI, 772;
 VIII, 1078; X, 142
- determination by semi-microanalysis, IV, 350
 in strawberry nutrition, IV, 362
- Maguey (*Agave cantala*), leaf structure, X, 1434

SUBJECT INDEX

- Mahaleb (*Prunus mahaleb*)—**
as cherry rootstock, I, 39, 40, 130; II, 14, 116; III, 12, 442, 445; IV, 33, 173, 522; V, 4, 339, 584; VIII, 977; IX, 415, 792, 1162; X, 871, 872, 1307
seed germination, II, 26
- Maine agric. Exp. Stat. report of progress 1936/7-1937/8, VIII, 1359; IX, 1537**
- Mal secco, see Citrus, mal secco**
- Malacosoma americana, IX, 112**
- Malaga grapes, vitamins in, II, 267**
- Malaya—**
agricultural statistics of, VI, 1001; VIII, (1378); X, (450)
agriculture, outline of, VI, 975
cacao in, VIII, 234
coconuts in, I, 402; II, 405; III, 250; IV, 653; VII, 760; IX, 289
Dep. Agric. A.R. 1937-1938, VIII, (1378); X, 440
derris in, II, 377; IV, 231; VII, 738
fruits in, V, 294
hydnocarpus oils, II, 180
pineapples in, IV, 133
report—
on visit to, IX, 1090
for year 1935, VI, 1002
rubber root disease in, II, 82
soils in, III, 589
tea, lowland, in, III, 233
- Maleic acid in fruit preservation, VI, 202, 405; VIII, 1258; IX, 1453**
- Maleuterpes spinipes, X, 445**
- Malice scrub, I, 354**
- Malling stocks, see Rootstocks, Malling**
- Malta—**
citrus in, IX, 563
Dep. Agric. A.R. 1937/8, IX, (1544)
- Malus—**
baccata, ancestor of apple, VII, 545
growth hormone in, VII, 260
pollination studies, IX, 59
polyploidy in, VII, 544
prunifolia—
ancestors of cultivated apple, VII, 545
as apple rootstock, IX, 786
- Manchurian apples, III, 284**
- Mandarin—**
brown spot on Emperor of Canton, VIII, 1156
canning, VII, 287
the Clementine, VI, 137; VII, 151; IX, 562, 966
crown development, VI, 828
cultivation—
in Japan, VII, 962; VIII, 287
in Malaya, VII, 710
in U.S.S.R., VIII, 805
fertilizers for, VII, 163; X, 635, 1121
frost resistance, VI, 854; IX, 574
fruit thinning, VIII, 180
fruiting periodicity in, VIII, 1128
irrigation, VIII, 178
juice, IX, 329
Kara, VI, 359
Kinnow, VI, 359
pollen viability, VIII, 1129
pruning, VI, 139; VIII, 1128
rootstocks for, IV, 609
Satsuma, see Mandarin Unshiu
seedlings, over-wintering, IX, 573
soil affects quality in Colchis, IX, 1338
Suhuikan, IX, 193
- Mandarin (continued)—**
and sudden temperature changes, X, 200
thinning, VIII, 180
Unshiu, IV, 260; VI, 825; VIII, 805, 1129; X, 197, 199, 1121, 1406
Wilking, VI, 359
windbreaks for, VI, 140
winter planting, IX, 206
- Manganese—**
in cacao soil, VI, 578
deficiency—
in citrus, see Citrus, manganese deficiency
in pea, see Pea, manganese deficiency
in peach, VII, 879
in plants in general, IV, 240; V, 639; IX, 513; X, 1351
effect on plants, VII, 368; VIII, 649, 650
estimation, IX, 395
as plant nutrient, IX, (1133)
response of onions to, X, 1049
sulphate for control of trenching in tung oil, VIII, 824
in wine, X, 1245
- Mango—**
anthracnose (*Colletotrichum gloeosporioides*), and *Glomerella cingulata*, V, 131; VIII, 250; X, 290
apogamy in, II, 160; V, 290
bud differentiation, VI, 388; IX, 1429
budding, VIII, 248, 570
the Carabayo, VII, 465; IX, 1429
cultivation—
in Bihar, VIII, 1345
in Bombay, plans to increase, III, 110
in Ceylon, I, 298
in Dutch East Indies, II, 84
in Florida, VII, 209
in Madras, research in, VIII, 1357
in Palestine, IX, 639
in the Philippines, III, 111; IX, 1534
in U.S.A., IX, 588
diseases, VII, 1042; X, 706, (1214)
fertilizers, VIII, 1229
flowering habits, VII, 1041
fruit—
characters of Puertan, X, 1492
chemical composition, VI, 922; VIII, 602
fall in, IX, 1430
fly control, VI, 179; IX, 1432
nutritive value of, VI, 922
quality and leaves, VIII, 872
respiration in, see also storage, VII, 462, 1082
set and sprays, VIII, 251
fruiting habits, VII, 1041
gas storage, VII, 1082
growth in, II, 84
heat sterilization of, VI, 179
marketing, IV, 687
pests, V, 484, 485; VII, 211; IX, 1431
photosynthesis, VIII, 249
polyembryony, V, 290; VII, 465
propagation, II, 292; IV, 447, 471, 610; VII, 756; VIII, 248, 570; IX, 1428, 1536
relation of growth to bearing, X, 1205
research at Kodur, Madras, X, 708
rootstocks, IV, 610; VIII, 571
scale insects on, VII, 211
side grafting, IX, 1428
smudging, III, 112; IV, 472; VI, 388; VII, 210

SUBJECT INDEX

- Mango (*continued*)—
storage, IV, 296; VI, 220; VII, 462, 1082;
X, 1238
vitamins in, II, 188; IV, 473; VII, 490
viviparous germination, VIII, 569
- Mangolds—
experiments with, III, 143
heart-rot and boron, VIII, 654
seed production, X, 585
- Mangosteen (*Garcinia mangostana*)—
in Burma, VI, 389
fertilizers, VIII, 1229
in Queensland, VI, 181
varieties, X, 1493
- Mangroves, III, 260, 588
- Manihot utilissima*, see Cassava
- Manila hemp (fibre of *Musa textilis*), see Hemp, Manila
- Manitoba, fruitgrowing in, IV, 11
- Manometer for fruit pressures, VIII, 897
- Manuals—
agricultural libraries, IX, 1097
the apple, III, 269
apple—
growing, VII, 1106
production in England, commercial, IX, 345
production in England, intensive systems,
IX, 343
rootstocks, VII, 523
the apples of England, VI, 612
apicot, VII, 785
bacterial plant disease, VI, 976
banana, VI, 978
the bee, IX, 1088; X, 59
beverage plants, VII, 1107
botanic gardens of the world, VII, 1110
breeding, II, 305; VII, 1105
bud-grafting *Hevea*, IX, 1413
budding and grafting, VIII, 918
cacao, V, 747
cacao soils of Trinidad, III, 557
canning crops—fruit and vegetables, III,
611
cherry, I, 216
citrus fruit diseases, IV, 304
coffee, I, 91; IV, 307; VI, 980; VIII, 1340
composting, I, 422; X, 1259
Dioscorea, X, 1549
diseases of fruits and hops, IX, 352
dwarf fruit trees, VIII, 303
entomology, IX, 1512
factory fume influence on vegetation, X, 1266
farm and garden seeds, VIII, 916
fertilizers, II, 210; V, 322; VIII, 917
fertilizers in tropics and sub-tropics, I, 424
flower—
forcing, X, 1260
production, summer flowers and foliage,
XI, 346
forcing flowering plants, IX, 341
fruit—
growing in Dutch East Indies, I, 219
juices, IX, 687, 1085
plants of Martinique, VIII, 1336
production, hardy, I, 317; VI, 234, 977;
IX, 344, 1510, 1511; X, 1546
fungi in Cyprus, VIII, 921
gardening, II, 417; V, 744, 745; VII, 518;
X, 768
genetics of garden plants, V, 158
German agricultural research, IX, 338
gooseberry, VIII, 55
- Manuals (*continued*)—
green manuring, leguminous crops for, VII,
521
growth substances, VIII, 1337, 1338; IX,
1098; X, 1545
guaraná, VI, 980
the hop industry in U.K., IV, 493
horticultural organizations and periodicals
of the world, VIII, 1332
injection of fruit trees, VIII, 1379
insecticides of vegetable origin, X, 1267
Italian agriculture, statistics, VIII, 919
kola, V, 747
longevity of plants, X, 1262
Malayan agriculture, VI, 975
maté, VI, 981
the moon and plant growth, VI, 979
the mulberry, IV, 689
olive growing, III, 133; IV, 690
orange and allied fruits, I, 217
pests—
of citrus and sub-tropicals, X, 1263
of fruit and hops, VII, 519
of ornamentals, VII, 793
plant—
hormones, see Manual, growth substances
products overseas, VII, 1108
protection, VI, 613; X, 1261
plants of west tropical Africa, VII, 1109
the plum, III, 426
potash deficiency, VIII, 302
potting composts, IX, 1086
propagation of plants, VIII, 918; X, 409,
1265
pruning, III, 425
raspberry, VI, 235
research institutes, III, 135, 613
rootstocks, deciduous, IX, 339; X, 770
salad crops, IX, 351
seed and potting composts, IX, 1086
soil—
erosion, X, 1543
management in the orchard, VIII, 1335
soilless growth, see also water cultures, VIII,
1334
spraying, commercial fruit tree, IX, 1089
statistical tables, VIII, 1339
strawberry, VII, 520
table grapes, I, 425
tea, I, 423; IV, 306; VI, 981
tree fruits, deciduous, see fruit production
(hardy).
tropical gardening, VI, 237
tung oil, X, 411
Turkish agriculture, IV, 144
vegetable—
crop production, VII, 522; IX, (1515);
X, 766
crops in tropics, I, 218; X, 1547, 1548
juices, IX, 1085
vegetative propagation of tropical and sub-
tropical crops, VI, 616; X, 772
vine pests, IX, 684
water cultures, VIII, 1334; X, 767, 1544
weed control, IV, 303
West African agriculture, IV, 305
world horticulture, VIII, 1331
- Manure—
goat, VIII, 549
lime and potash, interaction, IX, 1191
organic versus inorganic, X, 1294
- Manuring, see also Fertilizers

SUBJECT INDEX

- Manuring—**
 and bacterial canker of stone fruit, **VIII**, 741
 and hardness in lemons, **X**, 1125
 and taste in vegetables, **IX**, 1262
 and vitamin content, **V**, 244; **VII**, 809, 810
- Maranta arundinacea*, *see* Arrowroot
- Maraschino cherries, **VII**, 503
- Marasmius perniciosus* in cacao, **VII**, 197; **X**, 1191
- Marcotting, **V**, 111; **VI**, 616; **X**, 772
- Marguerite—
 a leaf spot of, **VIII**, (1123)
 as commercial pot plant, **VIII**, 500
- Marigold, storage of French, **VI**, 963
- Market—**
 garden manuring, **VII**, 105, 686; **VIII**, 470, 1079
 garden soils, nitrate in, **III**, 517
 gardening, **IX**, (507)
 surveys of Burma crops, **VII**, 179; **X**, (313)
- Markets at Ottawa and Toronto, **X**, 920
- Marketing—**
 apple, costs, **V**, 564
 in Bombay, **II**, 403
 of flowers, **VIII**, 499
 fruit and vegetables in N.Y., **IX**, 1068; **X**, 52
 in Montreal, **X**, 1334
 by motor truck, **VII**, 853
 oranges, **II**, 277
 passion fruit, **II**, 409
- Marking fruit for market, **V**, 309; **VI**, 699
- Marrow, vernalization, **IX**, 916
- Marssonina panattioniana* of lettuce, **IX**, 520
- Martinique—
 bananas in, **II**, 196
 crop and ornamental plants of, **VIII**, 1336
- Massachusetts—
 agric. Exp. Stat. A.R. 1936/7, **VIII**, 1360
 cranberry growing in, **VII**, 44
- Massalombarda, fruitgrowing near, **IX**, 1144, 1145
- Massey agric. Coll., periodicals in library, **IX**, 1538
- Masters' Memorial Lectures, **I**, 29, 330; **IV**, 2, 3, 317, 586; **X**, 22, 23
- Maté, manual on, **VI**, 981
- Mathiola incana*, *see* Stock
- Maturity, *see also* Ripening
- Maturity—
 affects storage, **II**, 231; **IX**, 654, 655
 studies of fruit, **II**, 231; **V**, 355, 356
 tester, electrical, **II**, 229; **VI**, 675
- Mauritius Dep. Agric. A.R. 1937-1938, **IX**, (726), **X**, (1589)
- Mazoe Citrus Stat. A.R. 1932, 1934, 1935 and 1937, **III**, 528; **VI**, 995; **VII**, 786; **X**, 773
- Mazzard (*Prunus avium*)—
 as cherry rootstock, **I**, 39, 40, 130; **II**, 14, 116; **III**, 286, 442, 445; **IV**, 33, 522; **V**, 4, 339, 584; **VIII**, 977; **IX**, 415, 792; **X**, 871, 872, 1307
 genetics, **IV**, 163
- Mealorub, a rubber powder, **IX**, 333
- Mealybug—
 on apple, Comstock's, **X**, (1378)
 citrus (*Pseudococcus citri*), *see* Citrus, mealy bug
 and hosts in S. Africa, **VII**, 84
 on *Phoenix* spp. (*Pseudococcus brevipes*), **VI**, 100
 pineapple (*Pseudococcus brevipes*), **VIII**, 266; **IX**, 1439; **X**, 306, 1509
 in S. America and predators, **X**, 225
 on strawberry (*Pseudococcus*), **X**, 123
- Measurement, *see* Apple growth, Circumeter, etc.
- Medicinal plants—**
 of Brazil, **VII**, 205
 in Canada, **VI**, 766
 in Ceylon, **VIII**, 862
 Dutch report on, **VIII**, 793
 in Germany, **VIII**, 156
 in Java, **IX**, 258
 in Nigeria, **VIII**, 239
 seed, photographic reproductions, **IX**, 1309
- Mediterranean—**
 fruit fly (*Ceratitis capitata*), *see* Fruit fly, Mediterranean
 olive industry, **VIII**, 818
 plants, root growth in, **VIII**, 637
- Medlar—**
 in Holland, **IX**, 406
 Japanese, *see* Loquat
 leaf blight (*Entomosporium maculatum*, and *Fabaria maculata*), **IX**, 100, 855
- Melaleuca alternifolia*, an oil plant, **IX**, 255
- Melocancium deltae*, **IX**, 1351
- Melolontha* spp., tree pests, **IX**, 102
- Melon—**
 anthracnose (*Colletotrichum lagenarium*), **VI**, 749
 anthracnose in water-, **V**, 646
 artificial lighting for, **I**, 3
 breeding, **IV**, 48; **VI**, 285; **VII**, 895; **VIII**, 423
 CO₂ experiments with, **IV**, 590
 chemical characteristics, **VIII**, 422
 coccinellid beetles on, **VI**, 757
 colour in water-, **VIII**, 139
 diseases, market, **VIII**, 437; **IX**, 311
Etiella zinakinella, a pest of water-, **IX**, 113
 flowering and fruiting time altered by grafting, **IX**, 76
 frozen storage of, **VII**, 495
 fruit—
 and cotyledon shape, **VI**, 285
 set in the water-, **X**, (1086)
 thinning in the water-, **X**, (1086)
- Fusarium* wilt, **IX**, 408, (893)
- growth substances and fruit set, **X**, 1060
- heading back, **IX**, 521
- inheritance in water-, **VIII**, 1004
- irrigation, **VIII**, 347; **X**, (1086)
- in Japan, the water-, **IX**, 408
- manuring, **VII**, 680; **VIII**, 1005; **IX**, 1191
- mosaic in, **V**, 424
- in Palestine, the water-, **X**, (598)
- pests, **VIII**, 776
- Phytophthora* rot of honeydew, **VIII**, 97
- powdery mildew (*Erysiphe cichoracearum*), **VI**, 749; **VII**, 895, 928
- rots of water, **IX**, (893)
- seed—
 composition of water-, **X**, (765)
 treatment, **X**, 597
- seedling structure of water-, **X**, (598)
- storage, **VII**, 495; **IX**, 310, 1465; **X**, 344, 374, 1517
- varieties, **VI**, 765; **X**, 596
- Mendel Institute at Eisgrub, tomato breeding at, **VIII**, 135
- Mentha—**
piperita spp., **VII**, 109
 spp. in the tropics, **IX**, 227
- Menthol production, **V**, 656
- "Mentors," Mitchurin's use of, **IX**, 794, 810, 969
- Merbein, viticultural research station at, **V**, 568
- Mercuric chloride action on roots, **VIII**, 639

SUBJECT INDEX

- Mercury—**
 compounds for seed treatment, X, (460)
 damping off control, IX, 476
- Merodon equestris** of narcissus, X, 1404
- Mesquite eradication, IX, 1001
- Messina citrus congress, II, 363
- Meta for slugs and snail control, VII, 703, 920; IX, 235, 504, 1382; X, 137, 677
- Metabolism—**
 in apples, *see* Apple metabolism
 in relation to preservation of fruit and vegetables, VI, 405
 sweet pea, and nutrients, VI, 533
 in tomato, *see* Tomato metabolism
- Metals, rôle in plant nutrition, VIII, 951
- Metarrhizium anisopliae**, the green muscadine fungus, VIII, 553
- Metaxenia—**
 in apple, *see* Apple metaxenia
 in cotton, I, 274
 in date palm, V, 489; VI, 926, 927
 in kaki, IV, 443
 in pear, IV, 336; VIII, 684
- Meteorology, I, 323, 341, 342; V, 525
- Methyl bromide fumigation of apple, IX, 308
- β -4-methylthiazolyl-5)-alanine, response of excised tomato roots to, X, (1284)
- Methyl-violet action on roots, VIII, 639
- Methylene blue effect on hop cuttings, IX, 6
- Metaxyloxon sagu**, II, 379; VII, 1011
- Mexican—**
 apple, *see* Casimiroa edulis,
 fruit fly (*Anastrepha ludens*), V, 717; VIII, 1192
- Mice prevention, VII, 917; X, 1004
- Michigan agric. Exp. Stat. Rep. 1936-1938, IX, (726)
- Micro-analysis of salts and organic acid in plants, X, 1286
- Microclimate in a cherry tree, IX, 62
- Microdetermination of minerals in plant ash, X, 1285
- Micro-elements, *see also* Fertilizers, minor elements
- Micro-elements—**
 boron and, X, 467
 in culture solution, VIII, 649
- Micro-incineration and ash analysis, X, (921)
- Microtechnique for winter flower bud, VII, 271
- Microtermes pallidus**, VI, 905
- Midge—**
chrysanthemum (*Diarthronomyia* sp.), *see* Chrysanthemum midge
 pear (*Contarinia pyriavora*), *see* Pear midge
- Mildews, *see under* plant affected
- Milkweed, the desert (*Asclepias erosa*), a source of rubber, V, 714; VIII, 567
- Millet as cover crop, VIII, 697
- Millipedes, VIII, 151
- Mimosa, vascular wilt of, X, 625
- Mineral—**
 elements in plants, determination, *see also* Fertilizer needs, diagnosis of, X, 464
 uptake affected by ringing, X, 1298
- Minerals, upward transport of, VII, 814
- Ministry of Agriculture, London, library, VI, 420
- Minnesota agric. Exp. Stat. A.R. 1936/7, IX, (726)
- Minor elements—
 deficiency symptoms, X, 1351
 in nutrition, *see* Fertilizers, minor elements
- Mint, manuring for menthol production, V, 656
- Mirabilis jalapa** and growth stimulants, VIII, (943)
- Mitchurin—**
 advocates use of "mentors", IX, 794, 810, 969
 apples, VIII, 959, 961, 963; IX, 410
 blackthorn \times *Prunus domestica* hybrids, X, 1309
 breeding by, IX, 769-771
 collected works, X, 1268
 pear varieties, IX, 35, 411
 selected works, IX, 1087
- Mite—**
 avocado, VI, 153
 beneficial and injurious, II, 259
 black currant, *see also* Black currant big bud, VI, 99; IX, 484
 broad (*Tarsonemus latus*), IV, 67; IX, 947
 of citrus (*Eriophyes* sp.), *Paratetranychus*, etc.)
see Citrus mites
 cyclamen (*Tarsonemus pallidus*), IV, 67; VI, 490; IX, 445, 872, 947
 damage done by leaf, X, 551
 found on hops and fruit trees, VI, 489; IX, 543, 937
 on mushroom, VI, 526; IX, 532
 in orange, the rust, VIII, 190
 plum gall (*Eriophyes similis*), IV, 576
 red (*Paratetranychus pilosus* and *Bryobia praetiosa*), V, 407; VII, 903; IX, 1247; X, (1378)
 red spider—
 affected by meteorological conditions, IX, 114
 on carnation, VIII, 151, 505
 on citrus, VI, 554; IX, 1350
 the fruit tree (*Oligonychus ulmi*), IX, 870, 1237; X, 993, 1366
 in greenhouse, IX, 545
 on hop (*Tetranychus telarius*), VIII, 791; IX, 937, 543
 (*Oligonychus ulmi*) migration, X, 1366
 oriental (*Anychus* and *Epitetranychus*), VI, 554; IX, 1350
 strawberry, III, 203; IV, 149, 227; V, 214; VI, 490; VII, 656; VIII, 1065; IX, 445, 872
 walnut, IX, (1355)
 Modern garden craft, VII, 518
- Moisture—**
 exchange between plant and air, X, 26
 exchange in seeds, VIII, 642
 retention by peat and soil, VII, 13
 and seed viability, VI, 404
 soil, *see* Soil moisture
- Moldavia, *Juglans regia* in, VIII, 1022
- Mole—**
 cricket (*Gryllotalpa*), control of, VIII, 458; X, 221, 1583
 trapping, IX, 129
- Molybdenum—**
 deficiency symptoms, X, 1351
 essential for plants, VIII, 649; X, 34
- Monilia—**
 diseases of fruit trees, *see* *Sclerotinia roreri*, cacao disease, VII, 197
 roots of apple and cherry, X, 542
- Monkey nut, *see* Groundnut
- Monostira unicostata**, apple and pear pest, X, 549
- Montserrat—
 agric. Dep. Rep. for 1936/8, X, (450)
 citrus rootstocks in, X, 1115
- Moon and plant growth, VI, 979; IX, 1126

SUBJECT INDEX

- Morden Dominion Exp. Stat. Rep. 1931/7, **IX**, 711
 Morello cherry, *see* Cherry, morello
 Morning glory (*Ipomoea* spp.), Japanese, haploid in, **III**, 78
Morocco—
 apples and pears in, **X**, 44
 fruit growing in, **IV**, 154-156, 277; **VI**, 868; **VII**, 987
Morphology—
 apple—
 flower, **VI**, 19
 fruit, **II**, 19
 cacao pod, **IV**, 461
 citrus flower, **IV**, 251
 pineapple, **IV**, 132
 plum flower, **VI**, 20, 438
Morus, *see also* Mulberry
Morus—
 spp., **IV**, 157, 689
 systematics, in Japan, **IX**, 1149
Mosaic—
 apple, **V**, 212; **VIII**, 90
 cassava, *see* Cassava viruses
 celery, **VII**, 927; **IX**, 147
 dahlia, **III**, 365, 527
 dwarf bean, **VIII**, 770
 fig, **IV**, 556; **VI**, 69
 hop, **VIII**, 791
 lettuce, *see* Lettuce mosaic
 narcissus, **IX**, 958
 peach, *see* Peach mosaic
 potato, **VIII**, 771
 in *Prunus* spp., **X**, 535
 raspberry, *see* Raspberry virus
 tobacco, *see* Tobacco mosaic
 tomato, **III**, 189, 512; **IV**, 411
Mosambi orange, the, **VIII**, 1126
Moscow agricultural exhibition—
 vegetable seedling planter, **X**, 132
 vegetables, **X**, 133
Moshi—
 Coffee Res. Stat., Lyamungu, A.R. 1934-1937, **V**, 690; **VI**, 1003; **VIII**, 1371, 1372
 Coffee Res. Stat., Lyamungu, work of, **VI**, 161; **IX**, 621
 Mosquito bug (*Helopeltis bergrothi*) causing tea stem canker, **III**, 236; **IV**, 116
 Moss, sphagnum, root promoting qualities, **IX**, 734
Moth—
 brown-tailed, **IX**, (506)
 codling (*Carpocapsa pomonella*), *see* Codling moth
 diamond back (*Plutella maculipennis*), **VII**, 132; **IX**, 1246
 gipsy (*Portherria dispar*), **III**, 44; **IX**, (506)
 oriental fruit, *see* *Grapholita molesta*
 oriental peach, *see also* *Cydia molesta*, **VIII**, 448; **IX**, 875, 1245; **X**, (563)
 zygaenid (*Artona catoxantha*), on coconut, **IX**, 1435
Mottle leaf—
 in cherry, **VI**, 295
 in citrus, *see* Citrus mottle leaf
Tylenchulus semipenetrans and, **VII**, 446
Mucuna deeringiana, **VIII**, 843
Mu-tree, *see* Tung-oil
 Mucilages, vegetable, and creaming of latex, **VIII**, 298
 Muden, work on citrus thrips at, **IV**, 262
Mulberry—
 cell sap in leaf of, **III**, 297
 dwarf disease, **X**, (1378)
- Mulberry (*continued*)—
 growing, **VI**, 30; **IX**, 1148
 in Holland, **IX**, 406
 in Japan, systematics of, **IX**, 1149
 leaves—
 food for silkworms, **V**, 22
 organic acids in, **VIII**, 293
 pollination experiments, **VIII**, 413
 seed storage, **X**, 1311
 spp., **IV**, 157, 689
 systematics of genus *Morus*, **IX**, 1149
Mulching—
 affects—
 potassium, **IX**, 435
 soil moisture capacity, **VI**, 687
 apple trees, **VI**, 687, 694; **X**, 1325
 cacao, **V**, 478
 citrus, **VII**, 971
 coffee, **VIII**, 857
 paper—
 for apples, **I**, 5
 for peppers and egg plant, **IV**, 406
 for pineapples, **II**, 4; **IV**, 660
 effect on soil, **II**, 4; **III**, 2
 in tea growing, **II**, 68
 for vegetables, **I**, 119
 raspberry, **IX**, 447; **X**, 924
 strawberry, **IX**, 447; **X**, 929
Mullein, *see* *Verbascum*
Mundulea spp., insecticidal properties, **VII**, 480, 996, 997; **VIII**, 311, 554; **IX**, 234, 1518, 1519; **X**, 1160
 Murray River district, grape drying in, **II**, 92
 Murrumbidgee Irrigation Areas, survey of soil and fruit growing, **IX**, 77
Musa, *see also* Banana
Musa—
 floral morphology, **V**, 137
 genetics and cytology of, **III**, 254; **V**, 726
textilis, *see* Hemp, Manila
 Muscadine fungus, green, temperatures lethal to, **VIII**, 553
Mushroom—
 affected by excess CO₂, **IV**, 92
 composts for, **IX**, 160
 cultivation, **II**, 360; **IV**, 414; **V**, 653; **VI**, 119; **VIII**, 788; **IX**, 160, 529, 530, 927; **X**, 611, 612, 1085
 diseases, **III**, 515; **VIII**, 149
 fertilizers, **IX**, 531; **X**, 612
 fumigation, **VI**, 120
 pests, **III**, 361; **IV**, 415, 416; **V**, 654; **VI**, 120, 524; **VII**, 694; **VIII**, 1111; **IX**, 532, (928)
 in Philippines, **VIII**, 267
 plot lay out with, **IV**, 600
 tyroglyphid mites on beds, **VI**, 526; **IX**, 532
 white plaster mould (*Oospora fimicola*), **VIII**, 149
 yields, **IX**, 927
Musk (*Abelmoschus*) pests of stored seed, **VIII**, 899
Mustard—
 growth substances and, **IX**, 10, 13
 potash deficiency in, **VIII**, 798
Mutations—
 apple bud, *see* Apple bud mutation
 bud—
 in horticultural crops, **VII**, 285
 in pome and stone fruits, **VII**, 547; **VIII**, 27; **IX**, 1153
 in cherry, **V**, 351; **X**, 53, 54

SUBJECT INDEX

- Mutations (*continued*)—
 electrically induced, II, 315; IV, 151; VII, 19; VIII, 158
geranium, VIII, 611
hyacinth, induced by temperature, VI, 529; VIII, 520
 induced by X-rays, II, 315; IV, 151; VII, 19; VIII, 158
vine, V, 206; VI, 286, 716
Myrciaria cauliflora, IX, 588
Mycobacterium album produces growth substances, IX, 19
 Mycology, bibliography of, VIII, 85
 Mycorrhiza—
 almond, VIII, 1027
 cacao, V, 475
 citrus, V, 438; VI, 840
 cotton, X, 831
 cranberry, II, 35; III, 50; VIII, 1001
 date palm, X, 1149
 favoured by humus in soil, X, 1259
 phlox, IX, 551
 pine seedlings, X, 832
 quince, VII, 846
 review of work on, IX, 1163
 strawberry, VII, 846
Tropaeolum, IX, 551
- Mycosphaerella*—
 fragariae, X, 113
 pinodes, VIII, 494
- Myrobalan, *see also* Plum rootstocks
 Myrobalan—
 B as peach rootstock, VIII, 679
 × blackthorn hybrids, VIII, 25
- Myrrh (*Balsamodendron myrrh*) in Somaliland, VIII, 1368
- Mysore—
 agricultural calendar for the year Pramadi, IX, (1544)
 coconuts in, II, 421; IV, 283
 coffee in, VIII, 228
 Coffee sci. Officer, A.R. 1930/1 and 1937/8, II, 283; VIII, 1361
 Dep. Agric. A.R. 1930/31 and 1935/6, II, 421; VIII, 311
 Dep. Hort. A.R. 1933/4, VI, 423
 fruit research scheme, VIII, 246
 Govt. Gdns Dep. A.R. 1936/7, VIII, (1378)
- Myzus*—
 cerasi, IV, 70; VII, 85
 persicae, a virus vector, IX, 900; X, 101
- Naming plants, rules for, X, 21, 478, 1293
 Napier grass as cover crop for coffee, X, 262
 Naphthalene acetic acid—
 and acetamide effects compared, X, 800, 801
 and effect on mobile auxin in bean seedling, X, 1282
 and fruit stock cuttings, VII, 827
 inhibitive effect of, IX, 1117
 and *Lupinus albus*, VIII, 626
 and tropicals and sub-tropicals, VIII, 634
- Naphthalene—
 greenhouse fumigation with, IV, 85; VI, 806
 Japanese beetle control, IV, 583
- β naphthoxyacetic acid, IX, 1109; X, 1066
 Narcissus—
 bulb treatment, III, 524; IV, 97, 98; VI, 131, 358, 809; VII, 795; VIII, 517, 1121; IX, 959, 1322
- Narcissus (*continued*)—
 bulb, treatment of supplies for Southern Hemisphere, X, 1403
 diseases, V, 82; X, 1113, (1405)
 eelworm, VIII, 1121
 experiments at Kirtton, X, 180-183, 185, 186
 fertilizers, VI, 811; IX, 1320
 flowering acceleration, VI, 809; VIII, 517;
 IX, 952
 fly (*Merodon equestris*), X, 1404
 forcing, soil effects, VIII, 517; X, 182
 gas effect on, II, 362
 growth cycle in King Alfred, III, 523
 mosaic, IX, 958
 pests, V, 82; X, 422, 1404
 stripe disease, VIII, 800
 temperature requirements, VIII, 517
 weed control, X, 181
- Narcotine, a source of vitamin C, II, 207
- Naringin, water solubility of, VII, 512
- Nasturtium, doubleness of flower in, VI, 354
- National Institute of Agricultural Botany, Cambridge A.R. 1938/9, X, (1589)
- National Mark Scheme, V, 508; IX, 320
- Nebraska agric. Exp. Stat. A.R. 1937-1939, VIII, (1378); IX, (1544); X, (1589)
- Nectar plants, II, 22
- Nectarine—
 breeding, V, 9
 growing—
 in California, VII, 532
 in England, X, 48
 under glass, VI, 647
 and Mediterranean fruit fly, VIII, 585
 packing, VII, 237
 shot-hole disease (*Coryneum beijerinckii*), VIII, 747
 storage, X, 343
- Nectria*—
 galligena, IV, 220; V, 601; VI, 486, 746; VII, 70; IX, 863
 avenues of entrance for, IX, 1232
- Nematodes, *see also* Eelworm, *Heterodera*, etc.
- Nematodes—
 of agricultural crops, X, 415
 chrysanthemum, *see* Chrysanthemum eel-worm
 in Hawaii, X, (1510)
 resistance in fruit seedlings, V, 240
 -resistant rootstocks, X, (866)
 restriction by fungus, IX, 1381
 of stone fruit, X, 122
 strawberry, *see* Strawberry eelworm
 tea, X, 687
 violet, IX, 456
- Neofabraea malicorticis*, X, 108
- Neoglaziovia variegata*, VIII, 218
- Nephelium*—
 lappaceum, VII, 212; X, 440
 litchi, *see* Litchi
- New Delhi, sci. Reps imp. agric. Res. Inst. 1937/8, X, (450)
- New Guinea—
 cacao in, IX, 627
 climatic notes on, X, 1430
- New South Wales—
 breeding in, IX, 768
 fruit industry, II, 313; X, 442
 fruit research work, VIII, 356
- Fruitgrowers' Fed. official Yearb. 1938/9, X, 442
- pecans, II, 41
- plums and prunes, I, 11

SUBJECT INDEX

- New York—**
 fruit soils, III, 153; VI, 275; VII, 577; IX, 820, 821
 nut growing IV, 60
 raspberry growing, III, 325
 State Hort. Soc. Proc. annu. Meet. 84th and 85th, IX, 712; X, 781
- New Zealand—**
 apple—
 exports, III, 413
 rootstock work, III, 291
 citrus, III, 213; VI, 540; VIII, 170
 Dep. Agric. A.R. 1930/31 and 1937/8-1939/40, II, 96; VIII, 1363; X, 443, 1578
 D.S.I.R. A.R. 1930/31-1932/3, 1934/5-1935/6, and 1937/8-1939/40, II, 97; III, 274; IV, 308; VI, 997; VII, 250; VIII, 1362; X, 445, 1579
 fruit—
 growing in, I, 111
 shipments, II, 199
 oil sprays in, III, 507
 research in colleges, III, 139
 scientific and industrial research 1927-38, X, 444
 storage and transport of fruit, V, 734
 tung oil production, II, 394; IV, 111
- Nickel addition to culture solution, VIII, 649**
- Nicotiana—**
 growth hormone in terminal shoot, VIII, 621
 stock:scion influence in, X, 171
- Nicotine vapour and vaporizer, V, 625; VI, 87**
- Nicotinic acid, a growth factor, IX, (121); X, (1284)**
- Nigeria—**
 Dep. Agric. A.R. 1936-1938, VIII, 1364; IX, 713; X, 782
 Dep. Agric. Plant Breeding Section, III, 229
 medicinal plants in, VIII, 239
- Nightshade as rootstock for tomato and egg plant, X, 159**
- Nikita—**
 State Gardens, Yalta, X, 416
 trees and shrubs at, X, 771
- Nilaoebast fibre, IX, 237**
- Nipa palm (*N. fruticans*)—**
 as fibre plant, IX, 237
 flowering of, III, 571
 sap yield, IX, 242
 sugar production, IX, 335
- Nitrate—**
 content of market garden soils, III, 517
 of soda, soil reaction to, and root growth, VIII, 699
- Nitrogen, see also Fertilizers**
- Nitrogen—**
 absorption by apple tree, IV, 37, 194-197, 348; VI, 672
 absorption affected by H ions of culture solution, IV, 351, 364
 in apple fruits, VI, 672; VII, 294, 295, 1067; VIII, (1292)
 apple requirements of, IX, 813
 and apple root growth, VIII, 699
 in apple shoots, VII, 570, 571; IX, 53
 in apple trees, autumnal migration, III, 16
 assimilation in ammoniacal form, VI, 619
 carbohydrate ratio in apples, *see* Apple metabolism
 cherry needs, VIII, 695
 and citrus, IX, 571, 572
 and citrus cuttings, VII, 966
- Nitrogen (continued)—**
 in cover crops, III, 98; VIII, 697, 698
 in cranberry nutrition, III, 50
 deficiency symptoms, III, 456; VI, 772; VII, 386, 813, 879; VIII, 433, 624, 1078; IX, 1291; X, 142
 determination by semi-microanalysis, IV, 350 and egg plant, III, 358
 fixation, biochemical studies, X, 830
 and fungus disease, IX, 470
 and hormone production, VIII, 624
 injections into apple trees, VII, 294, 295
 loss from fertilizer mixtures, X, 235, 236
 metabolism in Kelsey Plum, IX, 431
 and mould, IX, 470
 nutrition—
 of lettuces, IX, 1275
 a review, IX, 391
 in orange trees, IV, 434; V, 441
 orchard trials of, IV, 345
 and peach trees, IV, 40, 345, 351
 in pear shoots, II, 128
 and phosphoric acid in plants, VII, 8
 photosynthesis and respiration affected by, VI, 436
 and pineapple, *see* Pineapple and nitrogen assimilation
 in prunes (sugar), II, 128
 in rainfall, VIII, 355
 in soil affects sulphate and boron absorption, VII, 720
 in strawberries, IV, 364
 storage qualities of apples affected by, IV, 342
 and tea, V, 284
 and tobacco, VIII, 496
 and tomato, VIII, 485, 778, 779
 translocation, V, 353
 in woody tissue, determination, VII, 571
- Nitrogenous—**
 fractions, determination of, V, 183
 substances, migrations in plant, VI, 252
- Nitrophoska for mandarins, VII, 163**
- Njugo bean (*Voandzeia subterranea*), X, 1147**
- Nodona puncticollis*, the rose leaf beetle, X, 1368**
- Nomenclature, plant, V, 518; X, 21, 478, 1293**
- North Carolina agric. Exp. Stat. A.R. 1936/7-1937/8, IX, 714, 1539**
- North Dakota, fruits and farm gardens in, V, 532-534**
- Northern Rhodesia Dep. Agric. A.R. 1937-1938, VIII, (1378); IX, (1544)**
- Northern Spy—**
 pollination, VII, 290
 rooting habit, IV, 32; VI, 660, 662
 rootstock, *see* Apple, Northern Spy rootstock *Sclerotium rolfsii* on, III, 198
- Norway—**
 nursery investigations in, IX, 43
 vegetable research station A.R. for 1937-8, X, 446
- Notocelia uddmanniana*, IX, 877; X, 994**
- Nova Scotia Fruitgrowers Ass. A.R. 1939, X, 1580**
- Nursery—**
 apple—
 and cherry growth in, II, 16
 propagation methods, I, 34
 citrus, I, 84, 174
 disease and weed control in, II, 144
 frost injury in, I, 70, 84
 investigations in Norway, IX, 43
 pests, VII, 661
 soil sickness elimination in, I, 122, 332

SUBJECT INDEX

Nut—

the Australian, *see* Macadamia
breeding, VIII, 68
bulletin on, VIII, 434
flora, IX, 1514
growing—
in N. York State, IV, 60
problems of, III, 170
Macaco (*Attalea speciosa*), IX, 633
Macadamia, *see* Macadamia
the physic (*Jatropha curcas*), IV, 642
the pili (*Canarium spp.*), IX, 1433
propagation, X, 84
sawarie (*Caryocar nuciferum*), VI, 923
Nutmeg (*Myristica fragrans*)—
budding, VI, 170
cultivation, II, 178; IV, 469
harvesting by combine, X, (1158)
storage pests of, VIII, 899
volatile oils in, VI, 233

Nutrient—

deficiencies, *see* Deficiency and under particular plant
solutions, control of, V, 184
supplied in irrigation water, VII, 275

Nutrition, *see also* Fertilizers

Nutrition—

cacao, IV, 465
chrysanthemum, IV, 603
of horticultural plants, V, 637
metals in plant, rôle of, VIII, 951
minor elements in, *see* Fertilizers, minor elements
nitrogen, a review, IX, 391
not through roots, IX, 1132
problems of fruit tree, III, 270
rare elements in soil and fertilizers, V, 331; VII, 299
and soil physical properties, VII, 801

Nyasaland—

Prot. A.R. on Agric. 1937-1938, IX, (726), (1544)
report on tea growing in, IV, 695
tung-oil or mu-tree in, VIII, 202

Oak—

cork, IV, 266; VIII, 663
pin, VII, 149
root growth in seedling, VIII, 637
spring growth in, III, 15
Ocimum canum, *see* Camphor
“Off” year, *see* Biennial bearing
Ohanez grape, unproductiveness in, IV, 54

Ohio—

agr. Exp. Stat. A.R. 1936/7, IX, (1544)
apple growing in, IX, 65
horticultural research at Wooster, IV, 506
peach growing in, IX, 34

Oidium in rubber, VII, 753; X, 287

Oil—

cake from *Hevea* seed, VIII, 608
candlenut, VII, 513
carnation, substitutes for, IX, 336
citronella, IV, 491; V, 704; VII, 784; X, 310, 311
citrus, *see* Citrus, essential oil
coating for preserving fruit, *see also* Wax, IX, 1479, 1480, 1482
coconut, *see* Coconut oil
croton, III, 243

Oil (continued)—

crude—

against crabs, VIII, 552
injury to trees, VI, 471
deposits in citrus fruits, II, 167
dusts, VIII, 1061, 1062
essential, *see* Essential oils
extraction—

of groundnut, V, 319
of palm, III, 268, 610; V, 318; VI, 411; VIII, 606

fuel, affects plants, VI, 86
geranium, *see* Geranium oil
from grape pips, IX, 1498; X, 402
liberation, bacterial, IX, 1074
linseed to control blossoming, IV, 531; VI, 467

for lubricating or motive power, IV, 300, 301
and oil seeds, vegetable, production figures, IX, 1091

olive, *see* Olive oil

palm, *see* Palm oil

palm (*Elaeis guineensis*)—

chlorosis in, VI, 925

cultivation—

in Angola, I, 98
in Brazil, varieties used in, IX, 285
in Belgian Congo, IV, 622; V, 291; X, 1494

on Ivory Coast, experiment stations dealing with, IX, 1037
in Malaya, experiments on, I, 189; IV, 124; X, 440

in Nigeria, VIII, 1364; X, 1495
in Sumatra, III, 246; IV, 281, 282; VIII, 842; X, 295

trade and, VII, 218

in Uganda, 1039

diseases, VI, 1038

epiphytes on, IV, 124; VIII, 253

floral biology, IV, 649; VI, 185, 924

Fomes noxius causes stem rot of, VIII, 875

fruit rot, IV, 650

fruiting ability, II, 192

fruits, study of, I, 97

Ganoderma lucidum causes a stem rot of, VIII, 875

lipase in fruit, VI, 928

manuring, I, 401; III, 408; V, 486; VII, 1044; IX, 287; X, 440, 1497

nutrient removal by, I, 401

pests, IX, 286

pollination, I, 190; IV, 124; V, 132

processing, III, 268, 610; V, 318; VI, 411;

VII, 1102; VIII, 606; X, 396

pruning, IV, 124

root habit in, VI, 390

sanitation in groves, VI, 925

seeds, germination, VII, 759; X, 1496

selection, VIII, 252

sodium chlorate as weed killer among, VI, 589

soil management, X, 1498

stem rot, VI, 590; VIII, 875

uniformity trial, IX, 288

Ustulina zonata in, causes a stem rot of, VI, 590; VIII, 875

utilization, X, 396

vermin destruction among, VI, 393

weed control among, VI, 589

petroleum, IV, 77, 567

plants, *see also* Essential oils

SUBJECT INDEX

- Oil (continued)—**
 plants—
 boron affects growth of, **IX**, 1310
Canangium, **X**, 268
Cyperus esculentus, **VIII**, 827
 diseases of southern, **X**, 1141
Eruca sativa, **X**, 1098
 fungi of, **X**, (615)
 in Ireland, **VIII**, 795
 irrigation, **VIII**, 347
 in Italy, **VIII**, 155
Licania rigidia, **II**, 398; **X**, 273
Macadamia, see Macadamia
Melaleuca alternifolia, **IX**, 255; **X**, 1194
 for Moscow exhibition, **IX**, 605
Perilla spp., **VII**, 732; **X**, 227
 poppy, **IV**; **VIII**, 798
Trichilia emetica, **X**, 274
 in U.S.S.R., see Essential oils in U.S.S.R.
Xanthium strumarium as, **X**, 1096
 zone, crop rotations in, **X**, 1097
 production in Africa, **IV**, 489
 rancidity, tests of olive, **IV**, 492
 seal, for control of blossoming, **IV**, 531
 seeds, **V**, 127; **VIII**, 795, 797
 sprays, see Sprays, oil
 tobacco seed, **IX**, 1499
 from *Valerianella olitoria* seeds, **VIII**, 797
 vegetable, problems in Italy, **VIII**, 195
 volatile, in mace and nutmeg, **VI**, 233
 wrappers for fruit, see Wrappers for stored fruit
 ylang ylang, **X**, 268
- Oiticica nuts (*Licania rigidia*)**, **II**, 398; **X**, 273
- Olea—**
chrysophylla, the Ethiopian olive, **X**, 214
europaea, see Olive
- Oligonychus ulmi**, see Mite, red spider
- Olive—**
 annals of the Imperia Res. Stat., **III**, 435
 aerial roots, **X**, 652
 biennial bearing, **VIII**, 196
 biochemical study of, **VIII**, 197
 bud differentiation in, **IX**, 1368
 composition affecting fruiting, **III**, 457
 crusher and mill, **IX**, 1496
 cuttings, **I**, 378; **IX**, 5
 diseases, **V**, 395, 399; **VIII**, 1173
 drying the black, **IX**, 1073
 Ethiopian, grafting the, **X**, 214
 floral biology and effect on fruiting, **IX**, 989; **X**, 215-217, 1151
 fly, **IV**, 578, 579
 fruit—
 bud differentiation, **VIII**, 1174
 fall, **X**, 1151
 morphology of, **IX**, 226
 grafting, **IX**, 1367; **X**, 213, 214
 growing—
 in Algeria, improvement of, **X**, 213
 in California, Greek style, olive investigations, **VII**, 500
 in Crimea, varieties for, **IX**, 988
 in Egypt and its products, **X**, 210
 in France, **VIII**, 1173
 in Greece, **III**, 133, 457; **VIII**, 196; **IX**, 1366
 in Italy, **III**, 435; **IV**, 690; **VIII**, 195; **X**, 210
 in Libya, **X**, 212
 manual on, **IV**, 690
 round the Mediterranean, **VIII**, 818
- Olive, growing (continued)—
 in New South Wales, suggestions for, **V**, 528; **VI**, 256
 in North and South America, **VIII**, 194
 in Tunisia, **VII**, 533, 534; **VIII**, 428; **X**, 1150
 in U.S.A., **VIII**, 194; **IX**, 588
 in U.S.S.R., Nikita, Yalta, investigations, **IX**, 988; **X**, 211
 growth substances and, **IX**, 5
 identification, **IX**, 1365
 knot disease (*Bacterium savastanoi*), **V**, 399; **IX**, 1370
 manuring, **IX**, 1369
 maturity, oil content criterion of, **VI**, 29
 oil—
 designation and grading, **II**, 412
 extraction machinery, **IX**, 1496
 for hastening fig maturity, **VII**, 854
 hydrocarbons in, **VII**, 247
 for lubrication, **IV**, 300
 manual on, **IV**, 690
 Portuguese production, **X**, 1255
 production, **VIII**, 195; **IX**, 593
 and ripeness of olives, **IV**, 681; **VI**, 29
 rancidity tests, **IV**, 492
 ovules, anatomy, **X**, 652
 packing of Greek style, **VII**, 500
 pests, **V**, 403; **VIII**, 1173; **X**, 1263
 picking by machine, **IV**, 542
 pollination, **IX**, 989
 processing, **IX**, 1073, 1496, (1497); **X**, 758; **1255**
 propagation, **I**, 378; **IV**, 28; **VII**, 534; **IX**, 1367; **X**, 213, 214, 652, 1150
 pruning, **IV**, 539, 540; **VII**, 38, 303
 research station at Imperia, **III**, 435
 ripening affects oil quality, **IV**, 681; **VI**, 29
 rootstocks, **I**, 378; **IV**, 168; **V**, 10; **IX**, 1367
 seed germination, **IX**, 592
 selection and breeding, **X**, 1150
 soil cultivation, **VIII**, 428; **IX**, 588
 storage, **IV**, 674
 varieties and character, **I**, 270; **IV**, 517; **IX**, 1365
- Oppomalia* spp., **VI**, 394; **IX**, 293
- Oncoba echinata*, **IX**, 631
- Onion—**
 alkali scorch, **IV**, 246
 and boron, **VIII**, 925
 breeding, **IV**, 86; **VIII**, 124; **X**, 143
 bulb formation and growth, **VI**, 780; **VIII**, 125; **IX**, 904
 chemical anatomy, **IX**, 903
 copper, manganese and zinc effect on, **VII**, 368
 day length affects bulb growth, **VIII**, 125
 deficiency symptoms, **X**, 142
 eelworm or bloat, **X**, 1048
 flower development, **VII**, 377
 freezing, **VI**, 739
 frost effect on, **V**, 642
 germination, **IX**, 509
 grafting, **X**, 475
 growing—
 in Burma, **VII**, 688
 in Connecticut Valley, Mass., **V**, 641
 in England, **VII**, 111
 in Poland, **VII**, 112
 in S. Africa, **VIII**, 471
 in Texas, **VI**, 781
 in tropics, **VI**, 886; **VII**, 227, 688

SUBJECT INDEX

Onion (*continued*)—

- growth substances and, VIII, 620, 633
 keeping qualities, VII, 1089
 manganese required by, X, 1049
 measuring, VI, 781, 782; VIII, 470; X, 1381
 mildew (*Peronospora schleideniana*), X, 145
 mineral (*Dipogonysca repae*), X, (1382)
 nucleic acids of bulb, X, (1086)
 oil sprays affect, VI, 351
 pH affecting growth, III, 352
 pink root and bulb rot (*Fusarium cepae*), IV, 595
 plot lay out with, III, 439
 pollination, V, 243
 seed—
 production, X, 144
 storage, IX, 902; X, 144
 smut (*Urocystis cepulae*), VI, 331; VIII, 770
 statistical studies of, VI, 776
 storage, VII, 112, 1089; VIII, 588, 1301;
 X, 374, 789, 1521, 1522
 thrips, IV, 596; VIII, 1090; IX, 516
 white rot (*Sclerotium cepivorum*), VIII, 770

Ontario—

- horticulture in, IX, 31
 viticulture in, VIII, 716
Oospora timicola, disease of mushroom, VIII, 149
Opium poppy cultivation, X, 613, 614

Opuntia. *see also* Prickly pear

- Opuntia*—
 decumana as stock food, X, 1213
 in S. Africa, II, 143; X, 577
Orach (*Atriplex hortensis*), X, 594

Orange—

- abscission of fruit, VII, 719; X, 644
 acidity—
 loss in storage, VIII, 1294
 reduced by superphosphate sprays, IX, 1337
 alcohol from, X, 395
 arsenical spraying, II, 54
 biennial bearing, V, 437; VIII, 173, 174
 bigaradia, IV, 609
 blemishes affecting storage, III, 90
 blood, X, 631
 bordeaux spray, removal from, III, 542
 bud selection, I, 77; II, 366; VI, 543
 by-products, I, 87
 calcium requirements, IX, 571
 canning of mandarin, VIII, 287
 carotene in, IX, 577
 chlorosis of leaves, V, 96
 Clementine, VI, 137; VII, 151; IX, 562, 966
 cold injury in store, IX, 1475
 colouring artificially, II, 279, 371, 372;
 III, 128, 538, 600, 603; V, 155, 506, 507;
 X, 1250
 composition—
 abnormalities, I, 79
 affected by lime, III, 373
 affects storage, VIII, 1298
 determination, IX, 571; X, (1240)
 inheritance in bud sports, I, 77
 nitrogen in flowers and fruit, V, 260, 441;
 IX, 572
 of Palestine, VII, 961
 of skin, VI, 547, 839
 cooling and under-cooling affect storage,
 IX, 1468
 creasing and fertilizers, VIII, 535
 cuttings, growth substances and, VIII, 631
Diplodia inoculations and infection, V, 505;
 VII, 1078

Orange (*continued*)—

- dipping experiments against green mould,
 X, 355
 diseases, IX, 1349
Dorsariella rot, IX, 1032
 essential oils, I, 85, 86; V, 315; X, 196
 evaporation of, III, 59; V, 272
 fetola disease, IX, 977; X, 206, 1419
 field experiments, IV, 427
 flavour affected by rootstock, IV, 254
 flower, analysis of nutrient elements in,
 IX, 571
 foot rot in, V, 679
 frost—
 damage, V, 267, 503; VII, 440
 protection, VI, 854; VII, 440-443
 resistance, IX, 574
 fruit—
 composition, *see* composition
 fall, premature, X, 644
 nitrogen in developing, V, 441
 set improvement of, VIII, 808
 standards, VII, 968
Fukuhara, V, 433
 gas storage, *see also* storage, VII, 770
 girdling, *see* ringing
 graft hybrid, VI, 133
 granulation in Valencia, V, 676
 green mould and ventilation (*Penicillium digitatum*), *see also* Orange, *Penicillium infection*, VII, 1080; X, 354
 grove establishment, VII, 709
 growing—
 in Berry irrigation area, IV, 259; V, 87
 Kwangtung, varieties used in, IX, 962
 manual on, I, 217
 in Spain, IX, 191
 in S. Africa, I, 217
 for Tucuman home consumption, X, 1409
 in U.S.A., economics, IX, 187
 in U.S.S.R., investigations at Batum
 Botanical Gdns, X, 195
 in Victoria, Aust., the Valencia Late for
 V, 88
 growth—
 periodicity, IX, 196
 substances, VI, 4; VIII, 320, 631, 937
 heating affects storage, IX, 1469
 incompatibility, stock:scion, VI, 831
 irrigation, VII, 717
 Jaffa, IV, 607; VI, 550; IX, 189, 190
 juice, III, 217; IV, 106, 435, 682; V, 156.
 266; VI, 414, 609; VII, 507; X, 1270
 lead arsenate in, III, 223; IX, 216
 leaf—
 diastatic analysis, VIII, 182
 transpiration, IX, 971
 mandarin, *see* Mandarin
 manuring, I, 374; II, 52; V, 93, 262, 266,
 668; VII, 437, 722, 723, 970; VIII, 179,
 535, 1138; IX, 571, 572
 manuring affects juice, V, 266
 marketing, II, 277
 maturity, III, 533; IV, 260
 Mediterranean fruit fly on, VI, 555
 Mosambi, VIII, 1126
 mottle leaf in, V, 447; VII, 168
 Nagpur, storage of, VII, 492
 Navel, fruit development in, IX, 963
 nitrogen distribution in tree or part of tree,
 IV, 434; IX, 571, 572
 nitrogen lost by fruit fall, VII, 719

SUBJECT INDEX

Orange (*continued*)—

- oil, see essential oil
- ozone for storage, VI, 953
- packing, VI, 55; 966; VIII, 1297; X, 1250
- Penicillium* infection, II, 369; III, 530, 597; V, 505; VI, 556; VII, 1075, 1080; VIII, 895; IX, 312, 659; X, 354, 355, 363, 1232
- pests, IX, 1349
- phosphate requirements, IX, 571, 572
- Phytophthora infestans* on, X, 1130
- Pineapple, VI, 133
- pollination and seed number, VI, 550
- potash requirements, IX, 571
- price factors, VI, 558
- psorosis in sweet, V, 448
- quality estimation, IV, 436; VII, 968
- rad—
 - breakdown in Navel, V, 97; VIII, 186; IX, 208
 - colour pigments, X, 1420
 - composition, VI, 547, 839
 - yeast from, VIII, 294
- ringing, III, 87, 88; IV, 105, 106, 257, 258; V, 94; VI, 138, 549; VII, 439
- ripening, V, 439
- rootstocks for, IV, 254; V, 90; VI, 135; X, 197, 1406
- rust mite injury, VIII, 190
- Sanguinello group of blood, X, 631
- Santia, V, 59, 90
- Satsuma or Unshiu, see Mandarin, Unshiu
- seediness in, VI, 550
- seedlings, overwintering, IX, 573
- shape, VI, 557
- shoots, analysis of nutrient elements in, IX, 571
- skins, composition of, VI, 547, 839
- soils for, VII, 717; X, 199
- sooty blotch, III, 375; V, 99, 450; X, 643
- sour—
 - immunity to foot rot, V, 679
 - as rootstock, see also Orange rootstocks, IV, 609; IX, 566
- sourness due to P deficiency, VI, 542
- sprays affect quality, IX, 1354
- storage, I, 108, 312; III, 90, 538; IV, 481, 675; V, 502-505, 731, 736; VI, 206, 952, 953; VII, 492, 727, 770; VIII, 280-282, 1294, 1295, 1297, 1298; IX, 1466-1469, 1475, 1482; X, 353-355; 360, 363, 1238
- strains, improved, X, 1116
- sugar-acid relationship, II, 55; IV, 436
- the Suianikan, IX, 195
- surface blemishes, II, 370
- sweet (*C. sinensis*), IV, 609; V, 448
- sweet stamens in, VI, 842
- tangerine, loss of ascorbic acid during storage, X, 1240
- thinning, IV, 615; VIII, 173, 174, 180
- thrips (*Heliothrips haemorrhoidalis*), VII, 924
- topworking, VII, 712
- transport, V, 272
- trifoliolate—
 - hormonal theory of development in, IX, 7
 - as rootstock, IX, 560, 562, 961
 - seedlings, X, 194
- Trovita, VI, 359
- Unshiu, see Mandarin, Unshiu
- utilization of, VI, 609
- Valencia Late, V, 85, 88, 260, 262, 267, 437, 504, 676; VI, 543; VIII, 174, 1138; IX, 186, 1337

Orange (*continued*)—

- variation, see bud selection
- ventilation of stored, VIII, 1295
- vitamin C in, I, 414; II, 54; IV, 435; VII, 1079; IX, 1060, 1447
- Washington Navel, IV, 436, 612; V, 85, 87, 94, 97, 260; VII, 428, 439; X, 644
- waxage, III, 538; V, 504, 505; VI, 966; VII, 1078; VIII, 1295; X, 645
- waste as fertilizer, IX, 1340
- water—
 - relations in, IV, 432
 - relations of soils for, VII, 717
 - spot of navel, VIII, 186, 1151; IX, 208; X, 198, 1417
- wrappers for fruit, VI, 956; VII, 1062; VIII, 281, 1260; IX, 1482; X, 363, 364
- yeast from rind, VIII, 294
- Orchard heaters, see Frost protection, heaters
- Orchesites pallicornis*, VII, 80
- Orchids in Ceylon, IX, 1003
- Oregon, walnut growing in, IV, 57, 223
- Organic matter in orchards, relation to K and P in, VIII, 393
- Organic refuse (see also Composts), biological auto-sterilization, VII, 1802
- Organizations, horticultural, world, VIII, 1332
- Oriental—
 - fruit moth, biological and other control of, see *Cydia* and *Grapholita molesta*
 - peach moth (*Lapeyresia funebrana*), see also *Cydia molesta*, VIII, 448; IX, 1245; X, (563)
 - red spider (*Arychus* sp. and other), VI, 554; IX, 1350
- Origin—
 - of cultivated fruits, V, 336
 - of cultivated plants, X, (1304)
 - affects growth in apples, IX, 811
- Ornamentals—
 - in Canada, IX, 174
 - chlorosis in, IX, 177
 - damping off affected by soil treatments, IX, 176
 - forcing, I, 4
 - growth substances and, VIII, 330; IX, 11, (1121); X, 13
 - as hosts of plum bacterial canker, VIII, 742
 - Hungarian, III, 183
 - manuring, III, 63
 - pests of, VII, 793; VIII, 501; IX, 174
 - powdery mildews of (*Erysiphe* spp.), X, 1109
 - propagation, II, 112; VIII, 330, 366; IX, 11, 43, 230
 - research in U.S.A., V, 655; VII, 950; X, 618
 - in tropics, III, 586
 - virus work at Chestnut, VIII, 150
- Orobanchus* weed, VIII, 829
- Oriocouphus stamineus*, VI, 580; IX, 258
- Oryctes* spp., pest of coconuts, VII, 221; VIII, 553; X, 298
- Otidea foliolosa*, X, 1422
- Overseas plant products, VII, 1108
- Oxides, see Sprays, oxidized
- Owz rooted trees, method of getting, VI, 659
- Ovuleates in pineapple, IX, 1061
- Oxidase—
 - activity in stored fruits, VIII, 1273, 1276
 - system in peach, IV, 679
 - of tea leaves, VIII, 605
- Oxidation, photo-chemical, VI, 619
- Oxycoccus*, literature on, VIII, (715)

SUBJECT INDEX

Oxygen—

regulates dormancy in potato, **IX**, 1271
and rootgrowth in soil, **IX**, 422
uptake by stored apples, **VIII**, 1288
Oyster nut (*Telfairea pedata*), **VII**, 757
Ozone—
as aid to cold storage, **IV**, 140; **VI**, 953;
IX, 456
and plant growth, **VIII**, 16

Pacific North West—

figs in, **III**, 150
orchard insects in, **III**, 503
Packers under National Mark Scheme in U.K.,
V, 508; **IX**, 320

Packing—

apparatus, **I**, 203; **IV**, 514
apples, *see* Apple packing
bananas, *see* Banana packing
borates, use of, in, **V**, 509
Canadian type box, **VII**, 499
cases, steam sterilization of fruit, **IX**, 319
cherries, **V**, 563
citrus, *see* Citrus packing
citrus trees, **X**, 1134
containers affect wastage, **VII**, 1060
granadilla, **VIII**, 592
grapes, *see* Vine, grape packing
house, planning of apple, **VIII**, 1310
light affects, **VIII**, 591
nectarines, **VII**, 237
olives, Greek style, **VII**, 500
oranges, *see* Orange packing
peach, **VI**, 213; **VII**, 237
pears, *see* Pear packing
pineapples, **III**, 606
plums, **VI**, 965
raspberries, **VI**, 706, 965
small fruits, **VI**, 965
strawberries, *see* Strawberry packing
tomato plants, glycerine used in, **X**, 1072
tomatoes, **X**, 1393
tropical fruits, **I**, 418

Paddy—

in Ceylon, **VIII**, 844
and moisture exchange, **VIII**, 642

Paint, *Valerianella olitoria* source of oil for, **VIII**, 797

Paleacrita vernata, **IX**, 876

Palestine—

agricultural survey of, **IX**, 1096
apple growing in, **IV**, 12
apricots in, **III**, 148
biology of honeybee in, **VII**, 844
citrus—
industry, **II**, 156; **IV**, 103; **VI**, 539; **VIII**, 523-526, 536; **IX**, 189, 190, 1328, 1329; **X**, 626
rootstocks, **IV**, 103; **VIII**, 526
varieties, **II**, 156; **VIII**, 526
date palms in, **II**, 406
Dep. Agric. A.R. 1935/6-1936/7 and 1938/9,
see also Palestine Dep. Agric. Rep.,
VII, 1115; **VIII**, 1365; **X**, 1581
Dep. Agric. Rep. 1931-1932, **IV**, 147
evaporation in, **VIII**, 953
figs in, **III**, 149
mango acclimatization in, **IX**, 639
pomegranate in, **IV**, 127
report on visit to, in 1935, **VI**, 240
review of year 1939 in, **X**, 626

Palestine (*continued*)—

rootstocks for pome and stone fruits in,
X, 486
soils, manurial needs of, **IX**, 1356
vegetation of coastal plain, **X**, (226)

Palm—

African, and economic uses, **IX**, 1434
of Brazil, and uses, **IX**, 285
coconut, *see* Coconut
date, *see* Date palm
kernels, drying of, **VIII**, 297
nipa, *see* Nipa palm
the oil (*Elaeis guineensis*), *see also* Oil palm,
I, 97; **III**, 189, 190, 401; **II**, 192; **III**, 246,
268, 408, 610; **IV**, 124, 281, 282, 622, 649,
650; **V**, 132, 291, 318, 486; **VI**, 185, 390,
393, 411, 589, 590, 650, 924, 925, 928;
VII, 218, 219, 759, 1044, 1102; **VIII**, 252,
253, 296, 606, 842, 875, 1364; **IX**, 285-
288, 1037, 1038; **X**, 295, 396, 440, 1494-
1498

oil—

acidification of, **VI**, 928
carotene in, **IX**, 334; **X**, 1538
dietetic value, **VII**, 516
extraction, **II**, 268, 610; **V**, 318; **VI**, 411;
VII, 1102; **VIII**, 606
sampling, **VIII**, 296
pisaba (*Attalea funifera*), **IX**, 1036
of genus *Raphia*, **II**, 191
the royal, **VI**, 591
sago (*Metroxylon* spp.), **II**, 379; **VII**, 1011
seeds of two African, **VII**, 470
vegetable ivory (*Hypotheoe ventricosa*), **III**, 247

Panama disease of banana, *see* Banana, Panama
Panels, heat radiating, **VII**, 4, 5; **VIII**, 949

Papain production, preparation and properties,
I, 115; **III**, 115; **X**, (765), 1542

Papaw—

composition, **VIII**, 602
cultivation—
in Florida, **VIII**, 820
in Hawaii, **I**, 99
in Palestine, **X**, (657)
in Queensland, **VIII**, 1244
in S. Africa, **IX**, 1371
in Trinidad, **VII**, 475; **IX**, 1372
in U.S.A., **IX**, 588, 638
in Western Australia, **VIII**, 1243
cuttings, **VII**, 990
diseases, **VIII**, 1245
export experiments, **II**, 205
extraction of, **I**, 314; **III**, 115
flower and fruit types, **VIII**, 821
fruit fly treatment, **X**, (1158)
fruit pressure, **VIII**, 897
genetics of, **V**, 724; **VIII**, 821; **X**, (657)
harvesting and packing, **VIII**, 1244
inheritance in, **VII**, 476
leaf spot (*Pucciniosps caricae*), **V**, 135
maturity tests for, **VI**, 188
mosaic, **IX**, 1040, 1041
nutritive value, **VIII**, 199
parthenocarpy induced in, **VI**, 187
pests, **VIII**, 1246
propagation, **IV**, 447; **VII**, 990
research—
in Bihar, **VIII**, 1345
in Hawaii, **IX**, 1534
in Madras, **VIII**, 1357
respiration, **VIII**, 897; **X**, (1158)
scale (*Pseudopeltaria ostreata*), **X**, 1504

SUBJECT INDEX

- Papaw (*continued*)—
selection, III, 253, 410; VIII, 821
storage, II, 205
- Papaya, *see* Papaw
- Paper—
mulching, I, 5, 119; II, 4, 68; III, 2; IV, 406,
660
plants, tropical, VIII, 268
from sugar cane residues, X, 1536
- Papilionaceae*, rotenoids in, X, 1012
- Paprika (*Capsicum spp.*), breeding, IX, 137
- Paradise apples, leaf and petiole in, V, 173
- Paraffin—
injury to apple trees, IV, 398
treatment of fruits in store, IV, 484; IX, 1479
- Parasitic organisms, inter-action of, III, 489
- Paratetranychus*—
citri, VIII, 1162
pilosus, *see* Red mite of fruit trees
- Paratriozia cockerelli*, IX, 527
- Parsley fertilizers, VIII, 470
- Parsnip—
canker due to *Anguillulina dipsaci*, VII, 682
growing, VIII, 1087
- Parthenium argentatum*, *see* Guayule
- Parthenocarpy—
cause and connexion of auxins with, IX, 1332
in fruit trees, VIII, 980
induced—
in gladiolus, VII, 421
by growth substance, VII, 421; VIII, 337,
635, 944; IX, 736; X, 811, 812, (821), 889
in papaya, VI, 187
by pollen extracts, VII, 821
in vine, VIII, (715)
- Paspalum spp.*, weeds, VIII, 829
- Passerillage of grapes, VIII, 1328
- Passiflora*—
edulis, cultivation, *see also* Passion fruit,
VI, 370, 371; VIII, 540
mollissima, VII, 45
quadrangularis and *P. macrocarpa*, *see*
Granadilla
- Passion fruit—
breeding, V, 9
brown spot (*Alternaria passiflorae*), X, 655,
1364
composition, VIII, 602
cultivation—
in Hawaii, VI, 371
in Kenya, VIII, 1006
in Queensland, VIII, 540; X, 653
in Victoria, Aust., I, 180
grease spot (*Phytopomonas passiflorae*), IX, 591
marketing, II, 409
products, V, 316
pruning, X, 654
woodiness, VIII, 1043; X, 101, 438
- Pasteurization of juice, flash, IX, 678, 1485
- Patents, plant, II, 6; V, 518; VII, 799
- Patiala, fruit growing, VIII, 247
- Paulinia cupana*, source of guaraná, V, 122; VI, 980
- Pawpaw, *see* Papaw
- Pea—
aphid (*Illinoia pisi*), VI, 117; VII, 135, 395
and boron, VIII, 925
breeding, V, 652; VIII, 145, 469
canning, IV, 599; VI, 229, 416, 798-800;
VII, 129, 394, 504; VIII, 1306; IX, 1082
composition—
of canned, VI, 229
of dried, VIII, 1323
- Pea (*continued*)—
cultivation—
in California, IV, 412
in England, VI, 348; VIII, 785
diseases, V, 74, 75; VI, 118; VIII, 493, 494,
786
downy mildew (*Peronospora pisi*), VI, 118
dried, VIII, 1323; IX, 1493
fertilizers, IV, 599; VI, 800; VII, 394;
VIII, 786
frozen pack method of preservation, VIII,
1306-1308
- Fusarium* wilt of, IX, 159
- grafting of, VIII, 7
- growth substances and, VIII, 633; IX, 359;
X, (460)
- inoculation studies, X, 1082
- manganese deficiency, *see also* marsh spot,
IX, 528, 1282; X, 1397
- marsh spot, IV, 91; V, 75; VII, 131; IX, 528,
1282; X, 1397
- morphology, VI, 801
- mosaic, VII, 130, 396; X, 610
- moth (*Laspeyresia nigricana*), VI, 815
- nut, *see* Groundnut
- pests of stored, VIII, 899
- potassium deficiency in, VII, 943
- Pseudomonas pisi*, a disease of, VIII, 493
- ripening of green, VI, 799
- seed—
germination in laboratory, IX, (938)
protectant, cuprous oxide as, X, 1084
variation in marrow fat, III, 182
- seedlings, growth substances and, IX, 359;
X, (460)
- "sickness," IV, 413; V, 250; VI, 349, 522;
VII, 687; VIII, 786
- sowing dusted seed, VI, 803
- stone of (*Mycosphaerella pinodes*), VIII, 494
- storage, VII, 498, 1087; VIII, 892
- storage affects cooking, IX, 323
- thrips (*Kakothrips robusta*), VIII, 146
- vernification, X, 167
- test for growth substances, VIII, 326
- viruses, VII, 130, 396; VIII, 147; X, 1083
- vitamin C in, VI, 959; VII, 944; VIII, 892
- weevil (*Bruchus pisorum*), IX, 104, 157, 158
- Peach—
abnormalities due to nitrogen in excess,
VI, 697
- analysis, chemical of tree, V, 183
- arsenical spray damage, V, 619
- asteroid spot, VIII, 1042
- axillary buds, I, 333; VII, 284
- Bonvicini, fertility in, VII, 842; VIII, 37
- borer—
Conopio exitiosa, IX, 482; X, (563)
Synanthedon exitiosa, X, 1370
- breeding, V, 9; VII, 19, 550; VIII, 21, 26
- bridge grafting, VII, 919
- brown rot (*Sclerotinia*), III, 194, 491; IX,
1458
- bud selection, II, 110
- budding, VII, 284; VIII, 679
- "buttons," X, 501
- canker (*Valsa* spp. and others), III, 498;
VI, 74, 305
- canning, X, 391
- canning, growing for, X, 854
- chlorosis, V, 194, 589; VI, 732; VII, 60
- classification, X, 484
- cover crops for, VII, 850; X, 904

SUBJECT INDEX

- Peach (*continued*)—
 crown gall (*Phytoponas tumefaciens*), X, 978
 cuttings, VIII, 370
 deficiency symptoms, mineral, VII, 879; VIII, 690
 defoliation affects growth, X, 1331
 dormancy and growth substances, IX, 430
 drying, VI, 224
 ecology, X, 505
 embryo—
 abortion, VIII, 388, 389
 growth, IX, 1171
 flowers, VIII, 377
 frost hardness and damage, VIII, 731; IX, 459; X, 965
 frozen pack preservation, III, 419, 609
 fruit—
 brushing of, III, 164
 or flower bud fall, III, 156; VI, 682; VII, 32, 877; VIII, 1034; IX, 1170
 bud formation, III, 156; VI, 682
 characters, VII, 541
 composition, VIII, 602; X, 754
 development, II, 224; V, 186, 547; VI, 21, 680; VIII, 388
 quality in, II, 224, 226, 227
 set in, V, 23
 size affected by soil moisture, II, 224; V, 547
 fruiting in, II, 27
 "Gaillard 2," VII, 822
 Golden Drop, III, 28
 green manuring, X, 904
 growing—
 in Argentine for canning, X, 854
 in California, VII, 532
 in England, X, 48
 in Florida, varieties for, IX, (1184)
 in Germany, varietal differentiation, with regard to, III, 467
 in Holland, IX, 406
 in Missouri, VII, 540
 in Murrumbidgee Irrigation Areas, IX, 77
 in (Western) N. York, IX, 1071
 in Ohio, IX, 34
 in Rhone Valley, IX, 1146
 in the Sahara, VIII, 522
 in Western United States, X, 853
 growth, II, 223, 224
 growth inhibiting emanation from ripening, VIII, 327; IX, 1459; X, 337
 gum, wound, II, 141
 gumming, V, 186; VIII, 82, 83
 Hale's Early, VII, 822
 hardiness, VI, 681; IX, 459; X, 671, 965, 1574
 history, X, 48
 identification, VII, 541; X, (921)
 incompatibility with certain plum rootstocks, VIII, 679
 juice constituents, I, 107
 layering, VIII, 370
 leaf—
 analysis, X, 671
 area, II, 224, 226, 227
 curl (*Taphrina deformans*), IV, 221; VI, 75
 hopper (*Macropsis trimaculata*), IX, (506)
 morphology, VI, 673
 and wood diagnosis, X, 504
 leptonecrosis in, VII, 66
 little leaf, IX, 1215
 little peach in, VI, 296
 Peach (*continued*)—
 manuring, I, 51; II, 27, 223, 236, 237; IV, 40, 345, 351; V, 4; VI, 683, 684, 697; VII, 879; VIII, 989; IX, 69, 815-817; X, 899, 900, (921)
 market diseases of, VII, 1073
 maturity dates, VIII, 708
 and Mediterranean fruit fly, VIII, 585
 for mild winter climate, X, 1308
 mosaic, VII, 328, 640; VIII, 438, (467)
 moth (*Cydia Grapholitha molesta*), V, 629, 630; VIII, 448, 1061, 1062; IX, 875, 1245; X, 1001, 1270
 nematode-resistant, IX, 1520
 nitrogen determination in shoots, VII, 571
 nutrient deficiencies, VII, 879; VIII, 690
 packing, VI, 213; VII, 237
 pectin changes in stored, VIII, 893
 pests, VI, 70
 phosphorus determination in shoots, VII, 571
 photoperiodicity and flowering hormone in, IX, 7
 picking, III, 31; IV, 47
 pollination, I, 25; III, 467; V, 15; VI, 17; VII, 842; VIII, 37, 377; X, 881
 precooling rail shipments, X, 1227
 for preserve making, varieties suitable, VI, 257
 pruning, I, 249; III, 28; IV, 357; VII, 302; VIII, 47, 707, 731; IX, 71; X, (921)
 pubescence, III, 164
 research of Halle Institute, VIII, 677
 ringing, X, 1331
 ripening, II, 21; III, 31; VII, 588; VIII, 389, 581
 root growth, VI, 14; VII, 28; VIII, 33; IX, 799
 rootstocks for, I, 131; IV, 168; V, 4, 340; VII, 837, 1120; VIII, 677, 679; IX, 415, 1161; X, 486, 489, 865, 873, (921)
 rosette, VI, 296
 seed—
 germination of non-after-ripened, VI, 671; VII, 282
 germinative power, VII, 281, 282
 a self-fertile Hale, VI, 644
 shading, X, 906
 shipments, II, 203; X, 1227
 shoots, nodal development, VI, 682
 shot-hole disease (*Coryneum beijerinckii*), VII, 649; VIII, 747
 soil—
 covers, X, 904
 deficiencies, VII, 613
 moisture, II, 224; V, 547; X, 505, 1326
 split pit, V, 186
 spray—
 injury, V, 619; VI, 761; X, 126
 summer oil, VIII, (467)
 zinc sulphate in, VI, 80; VII, 99
 storage, I, 107; III, 419, 609; V, 735; VI, 213; VIII, 581, 585, 890, 893, 1281; IX, 1457, 1458; X, 337, 340-342, 735, 1226, 1228, 1513
 Sunbeam, IV, 679
 thinning, I, 352; IV, 357, 538; X, 913
 transplanting, IX, (1184); X, (921)
 transport, X, 735
 the "V", from Vineland, Ont., VIII, 669
 yellows, III, 187; V, 390; VI, 296; VII, 328, 329; VIII, 1058; IX, 456; X, 536

SUBJECT INDEX

Pear—

apple crossed by, VII, 824
 bagging the Japanese, X, 60, 882
 Bartlett or Williams, I, 37, 239; II, 128;
 IV, 14, 336, 347; IX, 467; X, 392, 1280
 biochemistry of, IV, 34
 black end, VI, 729; VIII, 1037
 black spot—
 (*Alternaria kikuchiana*), IV, 64
 (*Venturia pirina*), see Pear scab
 blossom—
 blast, VII, 335
 blight (*Bacterium nectarophilum*), VI, 482
 drop in, V, 45
 weevil (*Anthophonus pyri*), IX, 1249
 borer, the sinuate (*Agrius sinuatus*), V, 61
 Bosc, sugars in, VII, 293
 breeding, V, 9, 336; VII, 548, 824; VIII, 20,
 671; IX, 37, 411
 bud differentiation, X, 887
 canned, grit estimation in, X, 757
 canning quality affected by maturity and
 handling, V, 306
 Chinese, pollination in, VII, 843
 Chojuro, sterility in, IV, 536, 537
 chlorosis in, II, 127; III, 454
 chromosome number, V, 14
 codling moth on, VII, 659
 compatibility, stock:scion, X, 770
 copper deficiency in Bartlett, IX, 467
 cordon, VIII, 703
 core breakdown, VI, 966
 cork spot in, III, 184; VII, 619; VIII, 655
 corky lenticel development and bagging,
 X, 60, 882
 costs of production, V, 530
 cuttings, VIII, 673
 cytology, IV, 518; IX, 773
 deficiency diseases, X, 958
 dehorning, VIII, 406
 diploids as rootstocks, VII, 555
 dormancy and growth substances, IX, 430
 double working, IX, 419; X, 862
 drought spot, see cork spot
 drying, VIII, 593, 911; X, 392
 dwarf trees, X, 868
 embryo development in culture, VIII, 390
Entomosporium maculatum on, X, (128)
 ethylene—
 affects ripening, VII, 1056; VIII, 581;
 X, 329, 333
 emanations from, see also Pear, volatile
 gas, X, 1225
 exanthema disease, IX, 467
 export problems, IV, 672
 fireblight in (*Bacillus amylovorus*), III, 490;
 IV, 562, 563; V, 393; VI, 299, 740; VIII,
 1046; IX, 37, 1225
 a fireblight-immune (Richard Peters), VI,
 740
 flower characters and fruit set in, VIII, 686
 flowering dates, V, 179; IX, 425
 frost—
 damage, IX, 89, 459
 protection during transit, VII, 767
 resistance in rootstocks, VIII, 75
 fruit—
 bud formation, II, 328; V, 190; VIII, 343
 chemical composition, VII, 293; VIII, 602
 drop, VIII, 406
 growth, factors affecting, V, 348
 nitrogen fraction in, X, 322

Pear, fruit (continued)—

set, VIII, 684-686; IX, 1175
 vegetatively produced, IX, 63
 fruiting, II, 27; IX, 800, 801
 fruiting physiology, IX, 800, 801
 gas—
 emanations from, see Pear, volatile gas
 storage of, VI, 950, 953; VII, 1055;
 VIII, 1289; X, 332, 1228
 genetics, IX, 1151; X, 483
 growing—
 in China, varieties used, VIII, 358
 in Holland, IX, 406
 in Morocco, fruiting results, X, 44
 in Ontario, I, 225
 in Pacific Coast States, V, 165
 in Portugal, X, (852)
 in Rhone valley, varieties used, VII, 17
 in Sweden, varieties for, VIII, 670
 in Switzerland, varieties for, IX, 39
 in U.S.S.R., varieties used for, VIII, 357
 in Washington, cost of, V, 530
 growth, I, 137
 harvesting, II, 228; III, 30, 165
 incompatibility in, V, 537
 injections, VII, 606
 inter-sterility in, V, 180
 irrigation, IV, 198
 Kaukaska, as rootstock, VIII, 675
 Kieffer, handling the, VIII, 593, 911, 1277
 leaf—
 area, I, 55
 blister mite (*Eriophyes pyri*), V, 402; VII,
 657; IX, (1260)
 :fruit ratio, V, 190; VII, 845
 mottle, VIII, 436
 location affects, IV, 16
 manuring, I, 248; II, 27; IV, 16, 347; V, 4;
 VI, 454, 696; IX, 69, 434
 maturity trials, see also ripening, II, 229;
 VIII, 708
 metaxenia and xenia in, IV, 336; VIII, 684
 midge (*Contarinia pyrivora*), V, 404; VII,
 361; VIII, 450
 midge parasite (*Misocyclops*), V, 404
 the Mitchurin varieties, IX, 35
 mite (*Eriophyes pyri*), see leaf blister mite
Monostira unicostata pest, X, 549
 in New York and Chicago markets, IX,
 1070
 orchard management, IV, 14
 the oriental, III, 448
 origin of cultivated, V, 336
 oxidase and catalase activity in, VIII, 1276
 ozone for storage, VI, 953
 packing, III, 596; IV, 141; VI, 602, 966;
 VII, 236; VIII, 590
 pectin in gas stored, VIII, 893
Pentatomidae control on, X, 550
 pinching, summer, III, 295
 pollination, I, 344; III, 464; IV, 186, 336,
 339, 536, 537; V, 14, 16, 180, 359, 543,
 545; VI, 18; VII, 280, 840, 843; VIII,
 34, 35, 379, 684-686; IX, 57, 59, 60, 425,
 427; X, 57, 58, 492, 881
 prickly, see Prickly pear
 production, yearly figures of, VIII, 926, 928;
 IX, 701
 propagation, see also double working, root-
 stocks, topworking, etc., IV, 29; VIII, 673
 pruning, III, 295; V, 363; VIII, 707; IX,
 1175

SUBJECT INDEX

- Pear (continued)—**
- respiration, *see also storage*, VIII, 1273; IX, 306; X, 329, 330
 - respiration affected by ethylene, VII, 1056; X, 329
 - ringing, I, 251; VIII, 406
 - ripening, I, 37; II, 229, 330; VI, 211; VIII, 580, 885, 1280; IX, 306
 - ripening, ethylene, and other gases for, I, 302; VIII, 885, 1280; X, 392
 - root growth, III, 154; V, 176, 346; VII, 289; VIII, 680; X, 56, 490
 - rootstocks, I, 37, 129, 229, 335; III, 448; IV, 29, 168, 327; V, 4, 165, 168, 171, 338; VII, 551, 555, 1120; VIII, 75, 674-677; IX, 47, 415, 790, 791, 795, 1159; X, 50, 486, 488, 490, 770, 865, 868, 1270
 - rot—
Alternaria and *Macrosporium* spp., VIII, 1053
Aspergillus japonicus, VIII, 1054
scab (*Venturia pirina*), III, 192, 330, 492, 493, 495; IV, 380; VI, 744; VII, 341, 342; VIII, 95, 442; IX, 494; X, 109, 110, 574
 - scion rooting, IV, 325
 - seed, dormancy in, IX, 1152
 - seedling rootstocks, VII, 555; IX, 790, 791
 - seedlings, diploids and triploids as rootstocks, VII, 555
 - shoots, composition of, I, 239; II, 128
 - silver leaf (*Stereum purpureum*), VIII, 1055
 - soil—
management, VII, 578
moisture and, V, 190, 346, 354; VI, 274; VII, 578, 580
 - sorbitol in, VIII, 580; X, 328
 - Sphaeropsis malorum*, a disease of, IX, 471
 - the spindle-bush cordon, VIII, 703
 - sports, IX, 1153
 - spray residue removal from, II, 31; IV, 78; V, 409, 617; VII, 101, 364, 672
 - stamen metamorphosis, VI, 18
 - stem end shrivel, VII, 233
 - stem/root transmutation, VII, 572
 - sterility, V, 543; VII, 30, 280; VIII, 379
 - stone cells, I, 339; VI, 28; X, 757
 - stony pit in, IX, 1220
 - storage, I, 103-105, 301, 302, 308, 309; II, 88, 202, 228; IV, 480, 672; V, 148; VI, 211, 950, 951, 953; VII, 233, 767, 1055, 1056; VIII, 274, 580, 581, 694, 885, 890, 893, 1276, 1280, 1289; IX, 306, 1454; X, 322, 327-333, (351), 1228
 - summer spot, *see also* scab, III, 493
 - temperature affects ripening of fruit, X, 329
 - thinning, V, 190
 - topworking, VII, 24; IX, 778
 - tracheal sap, II, 127
 - triploids as rootstocks, VII, 555
 - a vegetative fruiting, IX, 63
 - vitamin C in, VII, 231
 - volatile gas, production by, VI, 273; X, 329, 331, 1225
 - wax applications to, VI, 955
 - Williams, *see* Pear, Bartlett
 - wilting in clay soil, VI, 274
 - wrappers for, III, 596; IV, 480
 - xenia or metaxenia in, IV, 336; VIII, 684
- Peat (continued)—**
- soils in Besoeki, VIII, 852
 - for tomato soils, VI, 789
 - use and value in horticulture, I, 324; II, 334; VII, 13
- Pecan—**
- breeding, VIII, 68
 - bud wood, III, 482
 - bunch disease, VIII, 89
 - casebearer (*Acrobasis caryae*), VIII, (467)
 - cultural treatment, V, 40
 - dichogamy in, X, (950), 1350
 - diseases, X, 1362
 - ethylene for treating, VII, 600
 - fertilizers for, V, 38; VI, 725
 - fruit—
development, V, 211; X, (87), (950)
morphology, II, 154
setting in, I, 169; VI, 725; X, (950)
germination affected by X rays, IV, 372
grafting methods, X, 947
 - growing—
in N.S. Wales, II, 41
in Yuma valley, Ariz., II, 155
 - growth, III, 483; V, 39, 40; IX, 1205
 - growth substances—
and cuttings of, X, 85
and transplanted, IX, 360, 843
 - heading back, X, 86
 - leaf—
characters, VIII, 722
moisture relations, VI, 288
scorch, X, (950)
 - liver spot disease (*Gnomonia caryae pecanae*), IV, 224
 - nut—
composition, V, 211
filling, physiology of, VII, 868; X, (950)
 - oil content, factors affecting, X, (950)
 - pests, X, 1263, 1362
 - photosynthesis, X, (950)
 - pollination, IV, 58; X, 1350
 - propagation, III, 174, 482; X, 85, 947
 - pruning, VI, 725; X, 86
 - root—
composition, seasonal variation in, IX, 841
system, III, 483; V, 39; IX, 841; X, 86
 - rootstock effects, IX, 840
 - rosette, zinc and, VI, 468, 469; IX, 845
 - Sacaton, Ariz., investigations at, IX, 217
 - scale, the obscure (*Chrysomphalus obscurus*), IX, 486
 - soil—
management, VII, 599
moisture and, VI, 288
soils, IX, 842
 - thinning fruit and trees, V, 577, 578
 - transplanting, growth substances and, IX, 360, 843
 - variety selection, VIII, 722
 - vein spot disease (*Gnomonia nerviseda*), V, 219
 - warm winter affects set in, X, (950)
- Pectic—**
- acid, chemical studies on, X, 1287
 - substances and maringin in grapefruit, IX, 578
- Pectin—**
- in apple cell wall, I, 69
 - apple pulp, V, 314, 512; VIII, 910
 - changes during gas storage, VIII, 893
 - in cider making, rôle of, V, 512
 - a citrus fruit product, VII, 1099; X, 1534

SUBJECT INDEX

Pectin (continued)—

in citrus trees, VII, 716
and delayed deterioration in plums, I, 106
extraction from fruits, X, 1534
in plant materials, X, 32, 1288
in stored plums, X, 336

Pelargonium*, see also Geranium**Pelargonium*—**

roseum, polyploids from, VIII, 769
spp. essential oil from, VI, 169; VII, 228;
VIII, 610-612, 1115

zonale, growth substances for, VIII, 629

Penetrometers, fruit, X, 381***Penicillium*—**

in citrus, *see Citrus, Penicillium infection*
expansum on apples, *see Apple blue mould*
in grapes, *see also Vine, grape wastage*, V,
737; VI, 747; X, 345
in lily bulbs, VII, 955

Pennsylvania—

agr. Exp. Stat. A.R. 1936/7-1938/9, VIII,
(1378); IX, (726); X, 447
agr. Exp. Stat., guide to, IX, 37
State hort. Ass. Proc., 75th and 81st annu.
Meet., IV, 310; X, 783

Pentatomidae rufipes* on pear, control, X, 550**Pentatrichopus fragariae*, *see Capitophorus fragariae*****P.E.P. report, VIII, 1380****Peony, IV, 99; IX, 941****Pepper—**

abnormal fruits and flowers, IV, 405; VI, 340;
VII, 683
breeding, VIII, 133; IX, 137
cultivation, VIII, 478; X, 1193
flower seed development, VIII, 1110
growth and fruit setting, VIII, 683
on isle of Bangka, X, 1193
manuring, X, 440
market diseases, III, 185
in Mysore, II, 421
paper mulching, IV, 406
pests of stored, VIII, 899
seed germination, VI, 769
soils, VII, 750
on living supports, IX, 257; X, 440
“yellow” disease and soil, VII, 750

Peppermint (*Mentha piperita*), VII, 109; IX, 544**Perennials, photoperiodism and frost resistance in, VIII, 81*****Perilla* spp. oil plants, VII, 732; IX, 227****Periodicals—**

horticultural, VIII, 1332

title abbreviations, IX, 685

***Peronospora*—**

scleroideniana, X, 145

spinaciae, X, 149

tabacina, *see Tobacco* downy mildew

Perry, I, 215***Persea drymifolia* and *P. gratissima*, *see Avocado*****Persimmon—**

Japanese and Oriental, *see Kaki*
in U.S.A., IX, 588

Perthshire, raspberry industry in, IV, 199**Peru, coca pests in, II, 181****Pests, *see also particular pests and plants*****Pests—**

in Belgian Congo, X, 1433

in California, V, 60

control—

bacterial, X, 565

in Ceylon, VIII, 839

in gardens and small orchards, VIII, 725

Pests, control (continued) —

by internal therapy, *see also Injection*, III, 335

a review of, recent, X, 989

in Switzerland, IV, 63

in wartime, X, 1374

in Cyprus, VII, 653

in Denmark, 1938, X, 99

and diseases of cultivated plants in Eastern Siberia, IX, (1515)

of Dutch East Indies, VIII, 899

effect and prevention, VI, 88

of fruit and vegetables found at the port of N. York, X, 1217

of fruits and hops, manual of, VII, 519

horticultural—

in Canada, VII, 652

in Sierra Leone, VIII, 840

legislation in S. Africa, *see also Quarantine*, VIII, 107

nursery, VII, 661

of ornamentals, VII, 793; VIII, 501

of stored products, VII, 1074; VIII, 899;

IX, 308; X, 317, 741, 1218

of sub-tropical crops, X, 1263

in Sverdlov, U.S.S.R., IX, 103

in Sweden, IX, 478

toxins, injuries due to, IX, 1235

in tropical fruits, control by refrigeration, IX, 1066

Petroleum oil—

on apple leaves, IV, 567

in citrus leaves, V, 105

spray damage, IV, 77

effect on vegetables, VI, 351

Petunia breeding for double flowers, IX, 179**pH—**

of apple fruits, VII, 847, 1068

in canning and bottling media, I, 211

and citrus growth, VIII, 176; IX, 1336; X, 1413

in fruit extracts, III, 129

in fruits varies in relation to growth and ripening, III, 179

influence on phosphate-induced chemotropism, VIII, 653

meaning of term, X, 825

of medium and plant growth, VII, 526

and onion growth, III, 352

of peach culture solutions, IV, 351

of pear—

fruits related to black-end, VI, 729

tree sap, II, 127

in plant juice, I, 68; II, 127

and potato respiration, VI, 630

for strawberry culture solutions, IV, 364

of strawberry soils, IX, 828

in vine culture solutions, IV, 366

for walnut growth, IX, 1336

Phacidia discolor* on quince, VII, 896*Phalsa pruning, VIII, 1247*****Phaseolus*—**

aureus or green gram, IX, 1050

calcaratus as green manure for camphor, VIII, 871

Phenacoccus incertus*, pest of kapok, VIII, 1193*Phenological plant protection calendar, IX, 683****Phenomenal berry, IX, 440, (830); X, 986****Phenyl acetic acid affects tomato growth, VII, 122****Philippines—**

cabbage varieties in, VIII, 882, 883

College of Agriculture, research at, IV, 621

SUBJECT INDEX

- Philippines (*continued*)—
 fruit composition in, VIII, 527
 fruits, storage methods, IV, 136
- Phloem—
 development and blossoming, VII, 136; IX, 1141
 movement of carbohydrates and fluorescein in, VIII, 644
 transport of minerals by, VII, 814
- Phlox—
 diseases, VII, 957
drummondii, mycorrhiza in, IX, 551
 summer flowering varieties, IV, 418
- Phoenix*—
dactylifera, *see* Date palm
 spp., mealybugs on, VI, 100
- Pholiota squarrosa* in cherry, VII, 644
- Phoma citricarpa*, X, 207
- Phomopsis*—
 cause of blueberry galls, VIII, 99
citri, V, 453; IX, 580; X, 1128
vensans on egg plant, VII, 479; IX, 1376
- Phorbia rubivora*, V, 62
- Phormium* research in N.Z., X, 444
- Phosphate—
 accelerates fruiting in tomato, VIII, 1105
 action on roots, VIII, 639
 aluminium, pot trials, VI, 157
 basic slag, III, 63
 chemotropism produced by, VIII, 653
 deficiency—
 test, III, 357
 tests in lettuce, VII, 117; IX, 910
 fertilizers, *see* Fertilizers, phosphatic
 fixation in soils, V, 481
- Rhenania, III, 63
 on subtropical soils, VIII, 828
 superphosphate, III, 63; VII, 310
- Phosphoric acid, nitrogen and, in plants, VII, 8
- Phosphorus—
 affecting iron deficiency in pineapple, IV, 477
in citrus, *see* Citrus, phosphorus in nutrition
 deficiency—
 in apple, VII, 612
 cause of sourness in oranges ?, VI, 542
 in lettuce, VII, 117; IX, 910
 in prune, III, 456
 in soil, III, 357
 and stomata, VII, 813
 in strawberries, IV, 362, 363; VII, 612
 in tomato, III, 357; IX, 1291
 in vegetables, VI, 772; VIII, 1078; X, 142
 determination by semi-micro analysis, IV, 350
 growth of lemon cuttings and, VI, 545
 humus affects available, X, 829
 isotopes for studying salt movement, IX, 1138
 orchard trials of, IV, 345
 and organic matter in soil, VIII, 393
 in vegetable nutrition, VI, 772
 in woody tissue, determination, VII, 571
- Photo-electric apparatus for measuring leaf areas, VI, 638; VIII, 710
- Photography—
 preparation of material for, VII, 641
 of seeds, IX, 1309
- Photometer, a photo-electric, IX, (397)
- Photoperiod and temperature affect growth, X, 1108
- Photoperiodic—
 induction—
 influenced by environment, IX, (1125)
 interrelation of light and darkness, X, (847)
- Photoperiodic (*continued*)—
 response—
 of cucumber, VII, 929
 to filtered radiation, VII, 405
- Photoperiodicity, *see also* Photoperiodism
- Photoperiodicity—
 in artichoke, VII, 374; IX, 1123
 in calcularias, IX, 548
 in chrysanthemum, IV, 417; VII, 140, 952, 953; VIII, 511, 1118; IX, 7, 13, 942-945; X, 1111
 environment and, VIII, 954
 growth substances and, VII, 264; IX, 7, 13, 946; X, (460)
 in intermediate day plants, IX, 743
 in lettuce, X, 1056
 light intensity and, VII, 525
 and pineapple metabolism, X, 305
 in *Pinus resinosa*, IX, 384
 in spinach, IX, 907
 in tung trees, VIII, 1179
- Photoperiodism, *see also* Daylight
- Photoperiodism—
 biochemistry of, VIII, 652
 and manurial efficiency of *Crotalaria juncea*, VIII, 545
 and cucumbers, X, 599
 and frost resistance, VIII, 81
 and fruit bud formation, VIII, 342
 and horticultural practice, VIII, 341
 review of work on, IX, 385
 and soybean, VIII, 652, 787; IX, (1125)
 and strawberry, VII, 861
 and stomatal behaviour, VIII, 516
 and tea, VI, 898
 response affected by temperature, VII, 861; VIII, 344, 954; X, 30
 and vitamin C, IX, 1124
- Photosynthetic movement in raspberry, VII, 857
- Photosynthesis—
 affected by—
 different factors, X, (847)
 by growth substances, VI, 264; X, 457, 810, 1278
 sprays, VI, 760, 762; IX, 880-883; X, 893
 water deficiency, VI, 674
 in apple leaves, *see* Apple photosynthesis
 in *Cinchona*, VIII, 806
 in citrus, VIII, 806
 in coffee, VII, 1019, 1020
 in lemons and winter covering, VIII, 181
 in mango, VIII, 249
 nitrogen supply and, VI, 436
 pruning and, X, 1330
 respiration and, VII, 569
 in tea, VIII, 806
 in tomatoes, VI, 436
 in tung, VIII, 806
 in woody plants, VI, 618
- Phototropism, a survey, X, 474
- Phragmidium* sp., *see* Rose rust
- Phthiriosis of coffee, IV, 451
- Phyllocopites*—
lycopersici, VI, 115
oleivorus, VIII, 190; IX, 583; X, 1132
- Phyllosticta*—
angulata, IX, 855; X, 985
prunicola, IX, (893); X, 543
- Phylloptaxis in rubber, I, 396
- Phyloxera vastatrix*, *see* Vine *Phyloxera*
- Physic nut (*Jatropha curcas*), IV, 642
- Physiological diseases, *see particular diseases*

SUBJECT INDEX

- Physiology—**
- of apples, III, 458, 462; V, 182
 - of citrus affecting juices, III, 266
- Phytocarcinomata and plant substances, VIII, 321**
- Phytocides, see Herbicides**
- Phytohormones, see Growth substances**
- Phytomonas—**
- begoniae*, IX, 550
 - cerasi* (=*P. syringae* ?), *see also* Stone fruit, bacterial canker, VII, 335
 - juglandis*, *see* Walnut bacteriosis
 - medicaginis*, var. *phaseolicola*, *see* Bean, halo blight
 - passiflorae*, IX, 591
 - rhzogenes*, IV, 375, 376; VI, 481
 - solanacearum*, IX, 1044
 - tumifaciens*, *see* Crown gall
- Phytophthora atricornis**, VII, 142
- Phytopathology, bibliography of, VIII, 85**
- Phytophthora—**
- cactorum* in apple, IX, 456
 - cinnamomi*—
 - on heaths, VI, 822; VII, 958; VIII, (1123)
 - on pineapple, V, 300
 - citrophthora*, VI, 553; VII, 448
 - diseases of tulip, IX, 558
 - fragariae*, VI, 77; X, 987, 1365
 - hibernalis* in oranges and lemons, X, 1130
 - infestans*—
 - in potato, VI, 350, 774; VIII, 784; X, (1086)
 - in tomato, VI, 350; VIII, 784
 - in melon, VIII, 97
 - palmariora* on citrus, VI, 860
 - parasitica*—
 - on citrus, V, 98; VI, 135, 553, 859; VII, 981
 - controlled by *Trichoderma koningii*, IX, 1302
 - raspberry dieback and, VIII, 98
 - in strawberry, VI, 77
 - in Trinidad, VII, 175
- Picea excelsa** cuttings, growth substances and, IX, 11
- Picking—**
- apples, II, 201; III, 165, 462;
 - peaches, III, 31; IV, 47
 - pears, II, 228; III, 30, 165
- Pickles, canning, VII, 772**
- Pickling, vegetables for, VI, 512; VIII, 799**
- Pigment—**
- affected by heat in tomato, IV, 139
 - carotinoid, and reproduction, V, 522
 - in ripening oranges, X, 1120
- Pigmentation in cacao, IV, 456, 461**
- Pigmented tissues, extraction of growth substances from, VIII, 935**
- Pili nut (*Canarium* spp.), IX, 1433**
- Pillnitz, an der Elbe, Staatslehranstalt für Gartenbau Rep. 1922/1932 and 1933/1936, II, 312; VI, 998**
- Pimento (*Pimento officinalis*) rust disease (*Puccinia psidii*), VI, 914**
- Pimiento (*Capsicum frutescens*) root growth, X, 140**
- Pimpinella anisum, source of anethole, VIII, 299, 613**
- Pine, root growth in seedling, VIII, 637**
- Pineapple—**
- canning, V, 741; VI, 417; VII, 1094; X, 1530
 - for canning, IX, 299; X, 303
 - carotene in, V, 299
 - chimaera in, VI, 195
- Pineapple (continued)—**
- chlorophyll affected by N fertilizer, V, 298
 - composition, VII, 246; IX, 1046; X, (718)
 - exports to Europe from East Indies, III, 259
 - field experiments, IV, 662; VII, 765
 - flowering induced by acetylene and ethylene, VIII, 879; X, 1212
 - freezing storage of products, I, 311
 - fruit rots, VIII, 265; IX, 660
 - fruits, growth of, IX, 1047
 - genetics, I, 406
 - growing—
 - in Brazil, variety collection for, X, 302
 - in Ceylon, VIII, 878
 - in Hawaii, VI, 400
 - in Jamaica, VI, 194
 - in Malaya, V, 294
 - in Nigeria, X, 1508
 - in S. Africa, Cape Province, I, 405
 - in U.S.A., IX, 588
 - harvesting and packing, III, 606
- Heterodera marioni** and, V, 730; VII, 478
- hexosamine in, IX, 1046**
- iron availability in, IV, 477**
- juice—**
- effect on cut fruit, IV, 680
 - sugar content, IV, 476
- leaves and inflorescences in, VII, 477**
- manuring, IV, 124, 133, 661; V, 298; VI, 401; VII, 765; VIII, 880, 1229; IX, 300, 301, 649**
- manuring, green, IV, 659, 661**
- mealybug (*Pseudococcus brevipes*), VIII, 266; IX, 1439; X, 306, 1509**
- metabolism affected by light and dark, X, 305**
- mineral uptake, VI, 401**
- morphology and biochemistry, IV, 132**
- mutating gene, VII, 766**
- nematode (*Heterodera marioni*), V, 730; VII, 478**
- and nitrogen assimilation—**
- in nutrient solution, VIII, 880; IX, 649
 - in soil cultures, X, 304
- nitrogen fraction in shoots, X, (718)**
- and nitrogen metabolism in dark and light, X, 305**
- nutrition, IV, 477; VIII, 880; IX, 649**
- oxalates in, IX, 1061**
- packing, III, 606**
- paper mulching, IV, 660**
- processing, X, (1258)**
- propagation, VIII, 878; IX, 1438**
- Pseudococcus brevipes* on, VIII, 266; IX, 1439; X, 306, 1509**
- root growth in, III, 583, 584; VII, 478**
- rot due to *Thielaviopsis* sp., X, 307**
- seed reserves, IV, 132**
- seedling structure, IV, 132**
- selection, IX, 1441**
- storage, I, 311; X, 1508**
- thrips on, VIII, 881, 1252; IX, 1440**
- trash, value as green manure, IV, 659; VI, 594**
- varieties, IX, 299; X, 302**
- wilt caused by *Pseudococcus brevipes*, see Pineapple, *P. brevipes***
- wilt (*Phytophthora cinnamomi*), V, 300**
- xanthophyll in, V, 299**
- and yellow spot virus, VIII, 881, 1252; IX, 1440**
- Piper—**
- betle*, *see* Betel vine
 - nigrum*, *see also* Pepper, X, 257, 1193

SUBJECT INDEX

- Piri-piri control, X, 1005
Pirus, see *Pyrus*
 Piassaba palm (*Attalea funifera*), IX, 1036
 Pistache—
 anatomy, VIII, 72
 biochemical study, VIII, 197
 bud borer (*Chaetoptelius vestitus*), VIII, 754
 Central Asiatic forms, IX, 596
 cultivation—
 in Greece, V, 379
 improvements in Mediterranean, IX, 998
 in Turkey, V, 579
 in U.S.A., II, 43
 in Uzbekistan, IX, 595
 pollination, III, 484; V, 579; VII, 598
 propagation, IX, 597, 997
 rootstocks, V, 579; IX, 997
 Sacaton, Ariz., investigations at, IX, 217
Pithecellobium dulce, as hedge plant, VII, 172
 Pits, waste fruit, V, 634, 717
 Plant—
 anatomy, importance, VI, 3
 behaviour of, X, 22
 cultivated, origin of, X, (1304)
 growth substances, see Growth substances
 health, minor elements and, VII, 299
 hormones, see Growth substances and Hormones
 injection for diagnostic and curative purposes, see also Injection, manual on, VIII, 1379
 insecticidal, see also particular plants, IX, 234; X, 239, 1267
 long day, see also Daylight length affecting growth of plants, V, 245; VII, 405
 of Martinique, fruit, VIII, 1336
 names, method of settling, V, 518; X, 21, 478, 1293
 products, overseas, VII, 1108
 Protection Institute, Leningrad, summary of work in 1936, IX, 704
 protection, scientific principles of, VI, 613; X, 1261
 tissues, gas analysis of, VII, 34
 of West Tropical Africa, VII, 1109
 Plantation crops, report of Imperial Economic Committee, 1937, VIII, 300
 Planter, vegetable seedling, X, 132
 Planting—
 deciduous orchards, see Fruit planting and Transplanting
 young trees in Ceylon, VIII, 834
Plasmodiophora brassicae, IV, 403; V, 72, 644; IX, 1273
Plasmopara viticola, see also Vine, mildew, downy
Plasmopara viticola, breeding vines resistant to, III, 53; IX, 79, 80, 1140
Plectodiscaella veneta on raspberry, III, 195, 196
Plesiocoris rugicollis, see Apple capsid
 Plot layout, see also Experiments, annuals and, VIII, 208; X, 24
 Plougastel, strawberry growing, IX, 822
 Ploughing near fruit trees in bloom, V, 362
 Plum—
 Agen, bud sport, VIII, 27
 aphid, mealy (*Hyalopterus pruni*), VIII, 104, 105
 auto-sterility, IV, 337
 bacterial canker, see also Stone fruit, bacterial canker, IV, 219; V, 216; VI, 480; VII, 642; VIII, 741, 742; X, 977
 biochemistry of, VIII, 386
 black knot (*Dibotryon morbosum*), III, 334; V, 602, 603
 breeding, IV, 164; V, 9; VIII, 21, 25
 brown rot (*Sclerotinia spp.*), see also wither tip, V, 221, 305, 394; VII, 769
 bud sport, VIII, 27
 Burbank's, II, 11; IV, 337
 canker due to frost, X, 529
 canning, VIII, 1316
 composition, VIII, 602; X, (755)
 conditioning, VIII, 1278, 1280
 curculio, IX, 1243; X, (1378)
 cuttings, root, IV, 27; VIII, 367
 cytology of "silvered", III, 500
 dieback, physiological, X, 534
 diseases, VII, 67
 emanation inhibiting growth, VIII, 327; IX, 1459
 ethylene and acetylene for ripening, VIII, 886, 1280; X, 334
 exantheme in Japanese, VI, 851
 flower, morphology, VI, 20, 438
 flowering dates, V, 179
 flowers, imperfect, VI, 16
 frost damage, IX, 459; X, 529
 fruit bud, II, 18, 125; III, 156; V, 546
 gall mite (*Eriophyes similis*), IV, 576
 gas storage, VI, 212; VIII, 890, 1291; X, 335, 339, 734, 1228
 grafting on seedlings, VIII, 28
 Grand Duke, IV, 326
 growing—
 in Belgium, Liège district, VI, 648
 East Malling notes on, 1939, X, 855
 in England, VI, 645
 in Holland, IX, 406
 in Russia, manual on, III, 426
 in Sahara, VIII, 522
 in Sweden, varieties suitable for, VIII, 670
 in Switzerland, V, 531; IX, 39
 in U.S.S.R., III, 426; VIII, 357.
 in Worcestershire, X, 47
 in Yugoslavia, VIII, 44
 growth inhibiting substance evolved from ripening, IX, 1459
 gumming—
 affects canning, VIII, 1316; X, 1528
 due to high water table, IV, 525; VI, 470
 hardy varieties, VIII, 967; IX, 1211
 heat or Kelsey spot of, VII, 320, 886
 identification, VI, 20, 438
 the Insititia, I, 121
 Japanese, IV, 158
 Kelsey or heat spot, VII, 320, 886
 leaf—
 analysis, X, 671
 hopper (*Macropsis trimaculata*), IX, (506)
 leptonecrosis in Japanese, VII, 66
 manuring, VI, 35; VIII, 44; IX, 69
 market diseases of, VII, 1073
 Maynard, as peach mosaic carrier, VIII, 438
 maturity diseases, VIII, 708
 and Mediterranean fruit fly control, VIII, 585
 nitrogen metabolism of the Kelsey, IX, 431
 packing, VI, 965
 the Padre, X, 853
 pectin changes during storage, X, 336
 physiological breakdown, IX, 1456; X, 338, 734
 pollen tube growth in, IX, 56

SUBJECT INDEX

- Plum (continued)—**
 pollination, II, 325; III, 23, 24, 160; IV, 337, 340; V, 545; VI, 451; VII, 563; VIII, 375, 376; IX, 56, 57, 59, 426, 805; X, 492, 493, 881
 propagation, IV, 27; V, 12; VIII, 28, 367, 679; IX, 45
 propagation methods affect bacterial canker, X, 977
 pruning, I, 58; V, 363; VIII, 707
 research of Halle Institute, VIII, 677
 ripening with acetylene or ethylene, VIII, 886, 1280; X, 334
 root cuttings, IV, 27; VIII, 367; IX, 45
 rootstocks, II, 115, 323; IV, 27, 168, 171, 172, 326; V, 169, 221, 398; VI, 444, 445; VII, 551, 556, 837, 1120; VIII, 29, 677, 679; IX, 47, 415; X, 486, 865, 977
 Santarosa, flowers of, VI, 16
 sawfly (*Hoplocampa* spp.), III, 509; IV, 76; V, 239; VII, 905, 906; VIII, 756-758; X, 1003
 seeds, germination and storage, II, 108
 shot hole disease (*Coryneum beijerinckii*), VIII, 747
 silver leaf (*Stereum purpureum*), III, 500; V, 398; VI, 487; X, 855, 988
 soil and growth, VIII, 691
 sooty blotch (*Gloeodes pomigena*), VII, 645
 sorbitol in, X, 733
 spray damage susceptibility, V, 225
 sterility and fertility, III, 23
 storage, I, 104, 106; II, 202; V, 305, 500; VI, 212, 946; VII, 768, 769, 1057; VIII, 585, 886, 890, 1278-1280, 1291; IX, 1455, 1456; X, 334-340, 733, 734, 1226, 1228
 thinning, I, 151, 250; II, 232; IX, 819
 topworking, V, 12
 Usuri or Manchurian, VIII, 967
 varieties derived from wild species, VIII, 22
 volatile substances produced during storage, X, 337
 water table effects on, IV, 525; VI, 470
 winter washing, III, 340
 wither tip, IV, 381; V, 221
Plutella maculipennis, VII, 132; IX, 1246
Podosphaera leucotricha, see Apple mildew
Poi, see Taro
Pois mescalate (*Mucuna deeringiana*), VIII, 843
Poison plants—
 American and Asiatic, with insecticidal properties, X, 239
 fish, IV, 625
Poisonous plants of India, X, 675
Polarity—
 and cambial activity, VI, 250
 in *Costus* shoots, III, 76
Polarograph, bibliography, IX, (405)
Pollen—
 date palm, storage of, VIII, 877
 extracts induce parthenocarpy, VII, 821
 germination—
 of apple, IX, 803
 boron, affects, VIII, 36
 growth substances and, X, 455
 temperature affects, V, 649; VIII, 520
 tests, IX, 835; X, 494, 497
 influence on fruit, see *Xenia* and *Metaxenia*
 longevity, IX, 804; X, 881
 morphology in citrus, V, 435
 plants of U.S.A., X, 876
 sterility, III, 159; IV, 186; VII, 30
 Pollen (continued)—
 storage, VII, 29, 419; VIII, 877; IX, 263
 tube growth, III, 299; V, 16; VIII, 688; IX, 56, 1166
 in Unshiu mandarin, viability, VIII, 1129
Pollination—
 almond, V, 580; VI, 17; X, 492
 of *Annona squamosa*, V, 716
Apoidea and, IV, 42
 apple, see Apple pollination
 apricot, V, 18; VI, 17
 avocado, II, 58; III, 117, 574
 banana, II, 87
 bee mortality and, VI, 267
 by bees, II, 118, 220; IV, 42, 46, 535; VI, 666; VII, 562; IX, 806, 1088
 bilberry, VIII, 713; X, 512, (950)
 in black currants, X, 1340
 in bud as substitute for bagging, X, 878
 cacao, see Cacao pollination
 cherry, see Cherry pollination
 chestnut, affects fruit, IX, 844; X, 948
 of citrus affects seed growth, X, (1136)
 coconut, VIII, 1239
 coffee, VI, 906
 date palm, VI, 926, 927; VIII, 877
 of deciduous fruits, I, 23, 138, 139, 343; VI, 665; VIII, 688; IX, 427; X, 492, 494, 877, 878, 1320
 in diploids and polyploids, III, 299
 early, before bud opening, X, 878
 emasculators, VII, 1010
 hazel nut, V, 210
 insect visitors and, I, 144, 244; III, 19, 20, 465; IV, 42; V, 545; IX, 802
 kaki, VII, 989; IX, 455
 loquat, VIII, (982)
 of *Malus* spp., IX, 59
 oil palm, I, 190; IV, 124; V, 132
 olive, IX, 989
 onion, V, 243
 orange, VI, 550
 peach, see Peach pollination
 pear, see Pear pollination
 pecan, IV, 58; X, 1350
 pistache, III, 484; V, 579; VII, 598
 plum, see Plum pollination
 pome fruit, see Pome fruit pollination
 of *Prunus* spp., IX, 59
 of *Pyrus* spp., IX, 59
 raspberry, II, 146
 rubber, I, 288
 sacks, material for, IV, 338
 and *Sclerotinia mali* infection, IV, 561
 spray effect on, V, 181
 stone fruit, see Stone fruit pollination
 strawberry, III, 313; VII, 43, 86
 sugar solution tests, I, 21; VIII, 979
 tomato, VI, 790
 vine, see Vine pollination
 walnut, III, 481; IV, 212
Pollinia imberbis weed, VIII, 829
Polychronis botrana, pest of vine, VIII, 465
Polyembryony—
 in citrus, see Citrus polyembryony
 in *Eugenia hookeri*, VI, 587
 in mango, V, 290
Polygamy in citrus, III, 86
Polyploids—
 obtained by use of colchicine, VIII, 322, 945; IX, 373; X, 458, 1112
 obtained from cuttings, VIII, 769

SUBJECT INDEX

- Polyplody**—
and hardness, VI, 794
in horticulture, its use, III, 438
in *Malus* sp., VII, 544
and vitamin C in apples, IV, 162
- Polypondium aureum**, freezing experiment with, IX, 462
- Pomace**—
improvement of low grade, VI, 418
uses of apple, III, 424; IV, 143
- Pomaceae**, young growth forms, I, 337
- Pome fruits**—
breeding, IV, 320; VII, 547; VIII, 24, 667
bud mutations in, VII, 547
fertility in, III, 298
germinating without dormant period, IX, 41
pollination, I, 23; II, 23, 221; III, 298, 468; IV, 41, 184
seed storage, IX, 42
- Sphaeropsis malorum* a disease of, in Crimean orchards, IX, 471
- sprays for, III, 210
- stock:scion relations, VIII, 30
- Pomegranate**—
biochemistry of, VIII, 197
cultivation and propagation, VIII, 198
fruit butterfly (*Virachola lilia*), X, 656
in Palestine, IV, 127
pests of, X, 1263
in U.S.A., IX, 588
in U.S.S.R., VIII, 819
- Pomoideae**—
chromosomes, IV, 320
origin of, IV, 320
- Poncirus trifoliata*, see also Orange, trifoliolate, IX, 7, 560, 562, 961; X, 194
- Pongamia pinnata*, an oil seed plant, V, 127
- Popillia japonica*, see Japanese beetle
- Poplar**, cambial activity and polarity in, VI, 250
- Poppy**—
classification and as oil producer, IV, 7; VIII, 798
flax and carrot grown together, IX, 1311, 1312
opium—
climate affects growth, X, 614
in Germany, X, 613
seed for bakery, X, 138
trials of oil, in Czechoslovakia, X, 139
- Porcupine grafting**, see Frameworking
- Port Elizabeth**, precooling store at, IX, 1542
- Portuguese colonies**, mangrove bark in, III, 260
- Pot**—
culture—
of citrus, VIII, 172
sand as medium in, VII, 117
experiments, I, 221; II, 233, 235, 264, 383; III, 63; IV, 37; VII, 117; IX, 894; X, 957
fibre, versus seed boxes, VII, 385
for fruit plants in tropics, X, 289
garden, VIII, 354
paper, copper resinate treatment, X, 1034
plants, commercial, VIII, 500
wire, for plants, X, 620
- Potash**, see also Potassium
- Potash**—
cabbage requirements of, VII, 114
for citrus, II, 52
for gladioli, IX, 1318
and organic matter in soil, VIII, 393
in soil, available, IV, 188; VIII, 351; X, 502, 503
and sweet potato, IX, 615
- Potash (continued)**—
and tea, V, 284
and water relations in apple, VII, 301
- Potassium**—
absorption by apple trees, see Apple, potassium absorption
affected by—
light, VII, 3
by straw mulch in soils, IX, 435
- affects—
apple seedlings, IX, 70
callusing, VI, 144
fibre cells of flax, VIII, 495
growth in vines, VII, 52
resistance to pests and diseases, III, 335
storage organs, II, 317; III, 1
tomato metabolism, IX, 1290; X, 1068-1071
transpiration in sunflower, tobacco and bean, VI, 628
tropical crops, III, 97
vegetable growth, IX, 1264
- availability to plants, X, 1068
- chloride—
injury, IX, 463
and potato metabolism, VI, 629
and chlorosis in red currants, IX, 94
and citrus growth, VII, 162; IX, 571
- deficiency—
in cacao, VII, 1028
in citrus, VII, 162
in currants and gooseberry, III, 47; IX, 94, 463
in fruit trees, III, 300
in lettuce, IX, 911; X, 152
in oil and fibre plants, VIII, 798
in prunes, III, 456
and starch content in pear, VII, 943
in strawberries, IV, 362, 363
- symptoms—
in general, IX, 387
manual on, VIII, 302
in tomato, IX, 526, 1291
in vegetables, VI, 772; X, 142
in vines, VII, 51; VIII, 433
- determination, III, 158; IV, 188, 350; X, 465
- determination by semi-microanalysis, IV, 350
- distribution in a clay loam, VII, 300
- exchangeable in soil, III, 473
- fertilizers, see Fertilizers, potassic
- indole acetate and parthenocarpy, VIII, 635
- iodide applied to vegetables, VII, 370
- isotopes for studying salt movement, IX, 1138
- nitrate injury, IX, 463
- and red currants, IX, 442, 463
- rôle of, in plants, IX, 1290; X, 1069, 1070
- salts and *Avena* test, VIII, 619
- in soils, III, 300, 473; IV, 188, 344; IX, 435
- sulphate injury, IX, 463
- and tomato, VIII, 485, 778; IX, 526; X, 1068-1071, (1400)
- in vine nutrition, VII, 51, 52
- Potato**—
aphis migration in, VII, 373
blight (*Phytophthora infestans*), VI, 350, 774; VIII, 784; X, (1086)
bud growth inhibition, IX, 1117
Canadian seed, IX, 135
 CO_2 storage of, IX, 1270
Cladosporium fulvum, susceptibility, VI, 350

SUBJECT INDEX

Potato (continued)—

- Colletotrichum* disease in tropics, **IX**, 1386
 crinkle, **VIII**, 771
 discs—
 metabolism in, **X**, (1400)
 rubidium absorption, **X**, (847)
 diseases, deficiency and excess, **IX**, 897
 dormancy, **IX**, 366, 1268-1271
 freezing, **VI**, 739
 grafting, **X**, 1039
 green sprouting of, **V**, 640
 growing—
 in Eire, seed, **IX**, (507)
 in hot soils, **X**, 1041
 in India, varieties used, **X**, 724
 in tropics, **IX**, 1386; **X**, 724
 in Tunisia, **X**, (1086)
 growth—
 inhibited by apple emanations, **VI**, 600,
 601
 substances and, **VIII**, 633; **IX**, 366; **X**, 6
 hollow heart detected by X-ray, **VIII**, 726
 irrigation, **IX**, 1272
 leaf—
 drop streak, **VIII**, 771
 injection, **X**, 1391
 metabolism affected by KCl, **VI**, 629
 lightning injury to tuber, **X**, 1043
 manganese deficiency, **IX**, 513
 manuring, **III**, 359; **VII**, 680, 685; **VIII**, 470;
 IX, 136; **X**, 135, 136, 1042
 metabolism, **X**, (378)
 mineral salts affect growth, **VII**, 368, 369
 mosaic, **VIII**, 771
 new, storage of, **IV**, 247; **X**, 376
 nutrition, **IX**, 897
 origins of, **VII**, 684
 and *Phytophthora infestans*, *see* blight
 products, **X**, 711
 re-energizing the, **V**, 68
 respiration and pH of medium, **VI**, 630
 rest period, *see* dormancy
Sclerotinia of, **VI**, 336
 seed—
 in Eire, **IX**, (507)
 production problems, **VII**, 373; **VIII**,
 1088; **IX**, (507); **X**, 1036, 1038, 1040,
 1041
 in South America, Canadian, **IX**, 135
 selection, pure line, **VII**, 372
 sickness (eelworm), **VII**, 685
 slugs, **X**, 137
 spray residues, **VI**, 351; **VIII**, 761
 sprays, **VIII**, 759
 sprouting, **IX**, 514; **X**, 1040
 starch, **II**, 172
 storage, **IV**, 247; **VIII**, 892, 899, (1305),
 1088; **X**, 376-378
 sugar content, **VIII**, (1305)
 sweet—
 breeding, **IX**, 613, 1361; **X**, (670)
 chimaeras, **IX**, 1362
 cultivation in different countries, **VIII**, 578;
 IX, 1360; **X**, 244, 1165, 1425
 curing and storage pests, **VI**, 961; **VIII**,
 899
 electrical hot beds for, **X**, 1140
 experiments, **VII**, 1007
 flower acceleration in, **X**, 1426, 1427
 flowering induced by water culture, **X**, 1426
 leaf beetle (*Typophorus viridicyaneus*), **IX**,
 614

Potato, sweet (continued)—

- manuring, **VII**, 680; **IX**, 615; **X**, 1140
 morphology of, **VI**, 403
 potash affects, **IX**, 615
 propagation, **IX**, 615
 storage, **VI**, 961; **VII**, 483; **VIII**, 899;
 X, 1235
 varietal suitability for drying, **IX**, 616
 tomato grafts, **VIII**, 782
 trials in Co. Durham, **X**, 1037
 tubers, drought and, **VI**, 773
 utilization of waste, **X**, 586
 vernalization, **IX**, 514
 virus problem, **VII**, 373; **VIII**, 739, 771;
 IX, 468, 515; **X**, (1086)
 vitamin C in, **IX**, 515; **X**, 377

Potentilla anserina, host of strawberry aphid, **VIII**,
 752

Potometers, **IX**, 396

Practical plant breeding, **VII**, 1105

Prairie soils, root activity in, **VI**, 249

Precooling of fruits, *see* Storage, precooling

Preservation, *see also* Storage

Preservation—

 by freezing, *see* Storage, frozen pack
 of fruit—

 in natural state or bottled, **X**, 1252
 with SO₂ prior to jam making, **V**, 513

 and vegetables, home, **X**, 1251

of plant materials in natural colours, **V**, 146,
 335

 of wood, **IV**, 150; **VI**, 435

Preservatives, volatile, for grapes, **X**, 346

Pressures in fruits, **VIII**, 897; **X**, 381

Prickly pear—

 chemical composition, **IX**, 1357

 control, **I**, 271; **II**, 143; **III**, 348; **VII**, 993;
 X, 223

 S. African varieties, **II**, 143; **X**, 577

Primula—

 malacoides, breeding, **VIII**, 159

 obconica, breeding non-irritant, **VI**, 535;
 VII, 407

Primulas, **VI**, 126, 127, 535; **VII**, 407

Prince Edward Island, tree fruit varieties for,
X, 1306

Priophorus tener on raspberry, **X**, 445

Proceedings—

 Association of Special Libraries and Information Bureaux (A.S.L.I.B.) 15th Conference, **IX**, 1521

 N. York State hort. Soc. 84th and 85th annu. Meet., **IX**, 712; **X**, 781

 Pennsylvania State hort. Ass. 75th and 81st annu. Meet., **IV**, 310; **X**, 783

 Washington State hort. Ass. 26th, 33rd and 34th annu. Meet., **I**, 320; **VIII**, 1376; **IX**, 724

Processed fruit—

Byssocochlamys fulva a pest of, *see* *Byssocochlamys fulva*

 control of fungus in, **VI**, 973

Processing—

 almonds, **I**, 209

Amorphophallus, **X**, 1541

 apple, *see* Apple

 apricot, *see* Apricot

 banana, **II**, 299; **V**, 317

 baobab, **X**, 247

 cacao, *see* Cacao curing

 cananga, **X**, 268

 cashew nut, *see* Cashew nut

SUBJECT INDEX

Processing (*continued*)—
 cherries, VI, 223; VII, 503; IX, 1072
 cherry stones, X, 759
citrus, *see also Citrus*
 citrus for dairy ration, IX, 1507
 coconut, *see* Coconut
 coffee, *see* Coffee processing
 deciduous fruits, *see* Drying and other processes
 dextrose used in, VIII, 603
 figs, IV, 299, 485; IX, 328
 fruit, low grade, IX, 681
 ginger, IV, 685; VIII, 1222, 1223
grape, *see* Vine, grape
grape stones, IX, 1498; X, 402
guava, IX, 1506
kaki, II, 298, 410
macadamia, IX, 640, 1495
molasses into rum, X, 1535
nipa palm, IX, 335
oil palm, *see* Oil palm, processing
olive, *see* Olive
orange, *see* Orange
palm oil, *see* Palm oil
papaw, I, 314; III, 115
peach, *see* Peach
pear, *see* Pear
pineapple, *see* Pineapple
prunes, *see* Prune
pyrethrum, X, 1257
ramie, X, 763
rubber, IX, 332, 333
tea, IX, (668), X, (765)
tobacco, IX, (173), 1499, 1508
tumeric, IX, 256
vegetables, *see* Vegetables
vitamins affected by, VIII, 286
walnut shells, X, 759
ylang-ylang, X, 268

Prodictoc haemiticus, cardamom weevil, X, 270

Productivity—
 related to growth, II, 326
 and water supply, VIII, 11

Profit from fertilizers, manual, VIII, 917

Progress Rep. Inst. Plant Indust. Indore, 1937/8, IX, (1544)

Prolan effect on vegetable growth, VIII, 633

Promecotheca on coconut, III, 114; VII, 473; X, 297

Prontaspis citri, VI, 863

Propagating beds, electric, *see* Hot beds

Propagation, *see also* Rootstocks, etc.

Propagation—
 almond, *see* Almond rootstocks
 apple, *see* Apple propagation
 apricot, X, 49
 avocado, *see* Avocado propagation
 banana, *see* Banana propagation
 bilberry, *see* Bilberry cuttings
 blackberry, *see* Blackberry propagation
 black currant, X, 925
bougainvillea, IX, 734
 budding technique, *see* Budding technique
 of bulbs from seed, IV, 604
cacao, I, 392; II, 284; III, 399; IV, 273, 453-455; V, 470, 699; VI, 380, 572, 882, 1005; VIII, 1221; IX, 1405; X, 1186, 1187, 1458
carnation, IX, 175, 1315
cassava, VII, 1012; IX, 1049
cherry, *see* Cherry rootstocks
cinchona, X, 865; X, 698, 699

Propagation (*continued*)—
citrus, I, 75, 174, 175, 366, 368; II, 50, 51, 159, 160-162; III, 9, 137, 215, 219, 367-369, 532, 535; IV, 608-610; V, 91, 257; VI, 4, 134, 135, 362, 364, 541, 830-834; VII, 152; VIII, 171, 172, 631, 1135; IX, 560, 566-569, 969, 1331, 1339; X, 190, 632, 1118, 1270, 1571
coffee, *see* Coffee, grafting, etc.
compost media for, VII, 267; VIII, 366; IX, 1066
conifers, *see* Conifers, propagation by cuttings
cotoneaster, IV, 100
by cuttings, *see* Cuttings and particular species
deciduous fruit, *see also* different processes and species, V, 536; VI, 439
effect of gas exposure on, III, 152, 293, 526
egg plant, X, 159
electricity as aid to, *see* Electricity for soil and frame heating
Ericaceae, VIII, 934; X, 1107
etiolation methods, *see also* by layering, II, 63; IV, 124, 279; VI, 372
eucalyptus, IX, 604
evergreens, X, 798, 1279
fig, IX, 5
of flowering plants, IV, 420; VI, 122
by framework, *see* Frameworking of fruit—
 trees in Malaya, IV, 279
 and vegetables, vegetative, VII, 283
geranium, VIII, 610; IX, 175
by grafting, *see* Grafting
growth substances and, *see* Growth substances
holly, III, 525; VIII, 933
hop, by cutting, IX, 6, 931
of horticultural plants, X, 1265
hydrangea, VII, 139; IX, 17, 175
jujube, IX, 1042
kapok, *see* Kapok
kola, IV, 119
by layering, *see also* etiolation methods, VIII, 370, 647
leaf tip, IX, 440, 830, 831
lemon, *see* Lemon cuttings
lilac, VIII, 629; IX, 17
lime, VIII, 1135; IX, 568
loganberries, IX, 440, 830, 831
Lonicera tatarica, X, 13-15
macadamia, VIII, 874; IX, 1534
mango, *see* Mango propagation
media, VII, 267; VIII, 366; IX, 1066
Norway spruce, *see* Conifers, propagation by cuttings
nut, X, 84
olive, *see* Olive propagation
orange, *see* Orange
of ornamentals, *see* Ornamentals, propagation
papaya, IV, 447; VII, 990
peach, *see* Peach cuttings and rootstocks
pear, *see also* Pear rootstocks, IV, 29; VII, 24; VIII, 673; IX, 419, 778; X, 50, 770, 862
pecan, *see* Pecan propagation
peony, tree, IV, 99
Picea excelsa, IX, 11
pineapple, VIII, 878; IX, 1438
pistache, IX, 597, 997
plant—
 manuals on, X, 409, 1265
 studies in, IV, 24, 25
plum, *see* Plum propagation

SUBJECT INDEX

Propagation (continued)—

- pomegranate, IV, 127; VIII, 198
 potato, *see* Potato
 ramie, IV, 628
 raspberry, V, 168; VI, 703
by root cuttings, see under particular plant
by root graft layering of apples, VIII, 969
by root piece grafting, V, 536
of rootstocks, deciduous, VI, 650; VII, 286; IX, 45
rose, see Rose propagation
rubber, see Rubber propagation
by seed, VIII, 647
by separation, VIII, 647
shrub, see Shrubs, propagation
star apple, X, 707
strawberry, IX, 445
*of sub-tropical fruit plants, *see also different processes and species*, VI, 439, 616*
of sub-tropical plantation crops, X, 772
*tea, *see* Tea propagation*
tonka bean, III, 242
*tree and shrub, *see also* Shrubs, propagation, IV, 324*
tropical—
crops, III, 381; VI, 616, 882; X, 772, 1161
orchard crops, II, 61; IV, 279
and sub-tropical fruits, VI, 616, 882
of tung oil tree, VIII, 822
*vegetative, *see also under various species and methods**
vegetative, a review of, X, 1297
*vine, *see* Vine propagation*
at Vineland, Ont., X, 868
*walnut, *see* Walnut propagation*
willow, VIII, 2, 657
yucca, VIII, 207

Propagator, the solar, I, 368

Protoparce spp. on tobacco, IX, (547)

Protochlorophyll, X, 842

Prune—

- the Agen, bud variation in, III, 444; VIII, 27
 Burbank's, II, 11
 cans, corrosion by sulphur sprays, VII, 241
 composition, X, 754
 dextrose:levulose ratio of dried, VI, 972
 drying, I, 206; VII, 501; VIII, 284, 1312; IX, 324
 drying ratios affected by yield, X, (1258)
 French, nutrition in, III, 156, 456
 irrigation with, V, 27
 Italian, products of, IX, 324
 manuring, IV, 345
 maturity indices in Italian, X, (1258)
 quality, factors responsible for, VI, 649
 russet or "scab", VI, 734
Sclerotinia fructicola disease, IX, 1229
 the sugar, II, 18; V, 546
 utilization of, I, 210
 virus in, VII, 331
 vitamins affected by processing, I, 206; VII, 491

Pruning—

- almond, II, 356; VIII, 1028
 apple, *see* Apple pruning
 apricot, IV, 183, 541
 bending as substitute for, VII, 37
 black currants, VII, 590
 cacao, V, 121
 cherry, IV, 182; VIII, 707
 citrus, *see* Citrus pruning
 coffee, *see* Coffee pruning

Pruning (continued)—

- and cropping, IX, 455
 deciduous fruit trees, I, 150, 353; III, 425; VI, 282; VIII, 707; IX, 1174; X, (506), 909, 910, 1329
 and disease incidence, IX, 1227
 figs, II, 338, 339; IX, 1176
 flowering shrubs, VII, 411
 and fruit—
 bud formation, VIII, 985
 set in pears, IX, 1175
Grewia asiatica, VIII, 1247
 lemon, II, 364; IV, 104; VI, 139
 Lorette, II, 338
 mandarin, VI, 139; VIII, 1128
 olive, IV, 539, 540; VII, 38, 303
 own rooted and seedling rooted apple trees, VII, 836
 passion fruit, X, 654
 peach, *see* Peach pruning
 pear, *see* Pear pruning
 pecans, VI, 725; X, 86
 affects photosynthesis, X, 1330
 plum, I, 58; V, 363; VIII, 707
 raspberries, VI, 43
 root, citrus, VII, 160
 and root growth, IV, 36
 rubber, II, 402
 and storage quality of fruit, IX, 436
 and sucker formation, IV, 182
 tea, *see* Tea pruning
 tomato, *see* Tomato pruning
 in the tropics, V, 280
 vine, *see* Vine pruning
 walnut, I, 264
 and water conductivity, IV, 527
 and winter injury, VII, 625; VIII, 731
 wounds, II, 13; V, 28, 196; VI, 465

Prunus—*amygdalus*, *see* Almond*avium*—

- as cherry rootstock, *see* Mazzard
 embryo abortion in, III, 286
 chromosome content, IV, 163
cerasifera seedlings, IV, 164
cerasus—
 as cherry rootstock, III, 442; IV, 173, 522; V, 4, 339; IX, 1162; X, 871
 =Morello, *see* Cherry, Morello
 cytology, II, 323; III, 500; VII, 549
davidiana—
 as plum stock, X, 486
 shot-hole disease (*Coryneum beijerinckii*), VIII, 747

Verticillium causing thrombosis, VII, 894*divaricata*, IV, 171; VII, 556*domestica* × blackthorn hybrids, X, 1309

embryos, anomalies in, IV, 319

hortulana as peach rootstock, IX, 1161*mahaleb* as cherry rootstock, *see* Mahaleb*mexicana* as peach rootstock, IX, 1161*mume*, VIII, 966*persica*, *see* Peach*pissardi*, host of plum bacterial canker, VIII, 742

pollen tube growth in, IX, 56

pollination studies, IX, 59

rootstocks—

cold resistance, X, 873

cytology of, II, 323

seed attachment and carpel symmetry, VII, 22

SUBJECT INDEX

- Prunus* (continued)—
spp.—
growth substances and, X, 860
mosaic in, X, 535
soil moisture and, V, 548
studies, IV, 163, 319
tomentosa, breeding, VIII, 50
Psalliotus campestris, see also Mushroom, VIII, 788; IX, 531
Psammophytes, IX, 748
Pseudananas, ecology of, X, 1211
Pseudoanidida duplex, V, 54; VI, 101
Pseudococcus—
brevipes—
mealybug new to Egypt, VI, 100
on pineapple, VIII, 266; IX, 1439; X, 306, 1509
citri, V, 271; VII, 449; VIII, 193, 813; X, 552
comstocki, X, (1378), 1421, 1581
gahani, biological control of, VIII, 817
kenyae of coffee, X, 438, 1182
on strawberries, X, 123
Pseudogamy in blackberry, III, 477
Pseudomonas—
carotae, V, 69
citri, VIII, 537, 1158
fluorescens, known to produce growth stimulants, IX, 19, 20
juglandis, see Walnut bacteriosis
medicaginis phaseolicola, see Bean, halo blight
mors prunorum, see Stone fruit, bacterial canker
pisi, VIII, 493
prunicola, VIII, 1044; IX, 860
tumefaciens, see Crown gall
Pseudopeltalaria ostreata of papaw, X, 1504
Pseudoperonospora humuli, see Hop downy mildew
Pseudopeziza ribis, VI, 306; VIII, 443
Psila—
nigricornis of chrysanthemum, III, 364
rosae on carrot, IX, 134
Sporosis in citrus, see Citrus psoriasis
Psyllia mali, VIII, 724; IX, 123
Pteridium lanuginosum, VIII, 829
Puccinia—
antirrhini, see *Antirrhinum* rust
psidii of pimento, VI, 914
spp., see Rust
Pucciniospsis caricae on papaw, V, 135
Pueraria phaseoloides, see also Fertilizers, green manuring, VII, 1001
Puerto Rico—
economic background of research in, X, 1428
Rio Pedras experiment station, VIII, 544
Pulps, fruit, IV, 298
Pulvinaria—
aurantii, biological control of, VIII, 817; X, 647
floccifera, a tea pest, IX, 1393
Pumilus medullae, see Vine, court-noué
Pummelo as rootstock for grapefruit, IX, 566
Pumpkin—
cultivation—
in U.S.A., VIII, 478
in White Russia, X, 1387
fasciation in, VII, 379
Sclerotinia rot of, VI, 341
Punjab—
fruit specialist's report, II, 60
marketing of oranges from, II, 277
Puncture vine (*Tribulus terrestris*), II, 261
- Pyrausta nubilalis*, a tree pest, IX, 219
Pyrethrum—
Australian, evaluation of, V, 612
bibliography, IX, 234
for citrus scale, VI, 865
for codling moth, IX, 111; X, 998
cultivation in different lands, II, 243, 347; IV, 580; V, 55; VI, 500, 764; VII, 92, 93; VIII, 109, 462; IX, 610, 1257
different kinds of insecticidal, III, 338
drying, VII, 481, 675; X, 1257
flower—
development, II, 29
evaluation, I, 157
for froghopper in sugar cane, VIII, 1198
manuring, IX, 1256
pyrethrin content, VII, 90, 91, 358
for raspberry beetle, III, 207
seed, IX, 1385
thrips in Kenya, X, 438
toxicity affected by different factors, II, 140; V, 56; VII, 356, 357, 359
vegetative propagation, V, 611
Pyrrole and carboxylic and acetic acids and parthenocarpy, VIII, 635
Pyrus—
malus, branch growth and composition, II, 223
palustris, *Septoria acicola* control by firing, IX, 456
pollination studies, IX, 59
salicifolia for breeding, IX, 411
Pythium—
arrhenomanes, root rot of sugar cane, VIII, 848
spp., see Damping off
- Quality, orchard factors and fruit, V, 337, 355, 356
Quarantine, plant, IV, 62, 513; VIII, 107, 835; IX, 214, 408, 1002, 1378; X, 410
Quassia against sawflies, VII, 905, 906; VIII, 758, 1070
Quebec apples, cost and production, IX, 33
Queensland—
Acclimatisation Soc. A.R. 1937/8-1939/40, IX, 717; X, 785, 1582
citrus growing in, II, 48
director of plant industry, Rep. 1939, X, 784
nut, see Macadamia
passion fruit in, X, 653
Quince—
fertilizers, IX, 69
growing—
in Holland, IX, 406
in U.S.A., IX, 36
mycorrhiza of, VII, 846
oriental—
breeding, VIII, 50
peach moth and, VII, 74
Phacidiella discolor on, VII, 896
root growth of grafted, X, 490
rootstock for, IX, 795
rootstocks for pear, I, 226; III, 11; VI, 261; VII, 1120; VIII, 674; IX, 778; X, 486, 488, 490
rust (*Gymnosporangium classipes*), VII, 898
wild, from Caucasus, VIII, 674
Quinine, see also Cinchona
Quinine, world supplies, X, 697

SUBJECT INDEX

- Rabbit repellent or preventive, V, 632; VII, 917
 Radiation—
 absorption and reflexion, X, 473
 cooling of leaf by, VI, 433
 filtered, and photoperiodicity, VII, 405
 and growth substances, VIII, 936
 methods of measuring, IX, 23
 and plant cytogenetics, IX, 379
 with quartz lamp, IV, 592
 and reproduction of long and short day plants, VI, 631
 Radish—
 deficiency symptoms, X, 142
 diseases, market, IX, 311
 growing, VIII, 1089
 Radium-induced variations, III, 356
 Radium rays, effect on plants, VII, 6
 Ragwort (*Senecio jacobaea*) control, VIII, 460; X, 1055, 1377
 Rain—
 artificial, *see Irrigation*, overhead distribution under trees, VI, 686
 Rainfall—
 and cropping, VI, 685
 and kapok yields, VI, 892
 nitrogen in, VIII, 355
 recording, VII, 272
 Raisin—
 chlorophyll in, VIII, 64
 industry, IV, 686
 production, yearly figures, VIII, 926; IX, (701)
 seedless, IV, 551
 Rambutan (*Nephelium lappaceum*), VII, 212; X, 440
 Ramie (*Boehmeria nivea*)—
 cultivation, IV, 628; VII, 181; IX, 993, 1387; X, 218
 processing, X, 763
 root system, X, 667
 Rampton fruit demonstration station, VII, 531
 Ramularia—
 bellunensis, VIII, (1123)
 cynarae on artichoke, VIII, 473
 causing root rot of ginseng, V, 223
 Rape—
 of the earth, the, X, 1543
 as oil plant, VIII, 155, 798
Raphanus oleiferus, potash deficiency in, VIII, 798
 Raphia, I, 192; II, 191; VII, 173; IX, 1011
 Raspberry—
 anthracnose (*Plectodiscella* sp.), III, 196
 aphis-resistant, VII, 892; IX, 857
 autumn fruiting, cytological characters, VI, 42
 beetle (*Byturus tomentosus*), II, 139; III, 207, 208; IV, 226; V, 237, 406
 breeding, V, 369-371; VII, 892; VIII, 52, 412, 711; IX, 40
 bud moth (*Carposina adreptella*), X, 445
 cane spot (*Plectodiscella veneta*), III, 195, 196
 carbohydrate translocation in, IX, 1185
 chemistry affecting canning, III, 310
 composition, X, 754
 crown gall on red, IV, 377; IX, 858
 cultural treatments, V, 372; X, 509
 the Cuthbert, in B.C., X, 509
 cuttings, VI, 703
 decline in B.C., X, 509
 delayed foliation in black, VII, 639
 dieback, *Phytophthora* associated with, VIII, 98

- Raspberry (*continued*)—
 disease in North America, V, 213
 diseases, VI, 71, 297, 301
 Dixie, variety of red, IX, 439
 failure, causes of, VI, 284
 frozen pack varieties for, X, 1229
 fruit bud formation, VI, 704, 705
 genetics, IX, (1187); X, (1338)
 gray bark (*Plectodiscella veneta*), III, 196
 growing—
 in British Columbia, VIII, 415; X, 509
 in England, VI, 235
 in Holland, IX, 406
 in Illinois, V, 565
 in Michigan, V, 30
 in Minnesota, X, 1336, 1337
 in New York State, III, 325
 in Scotland, IV, 199
 in U.S.S.R., varieties, VIII, 357, 412, 995
 in Wisconsin, VI, 707
 hybrids—
 at Mleev, VIII, 412
 Washington and Tahoma, VIII, 711
 inbreeding experiments, IX, 40
 juice, VIII, 904
 and kindred fruits, VI, 235
 leaf/fruit ratio, X, (950)
 leaves, water absorption by, VII, 856
 manual on, VI, 235
 manuring, II, 32; V, 372; VI, 284, 457, 708; VIII, 414, 415; IX, 829; X, 76
 mosaic, *see virus*
 moths (*Incurvaria* and *Lampronia* spp.), IV, 573; X, 990
 mulching, IX, 447; X, 924
 nitrogen translocation in, IX, 1186
 nutrients and winter injury, V, 585
 packing, VI, 706, 965
 pests, VI, 71; IX, 868
 photosynthate movement in, VII, 857
 Phytophthora and dieback in, VIII, 98
 picking, VI, 706
 pollination, II, 146
 propagation, V, 168; VI, 703
 pruning the Latham, VI, 43
 refrigeration, VI, 706
 ripening dates at Vineland, Ont., VIII, 708
 root—
 growth, VII, 855
 rots, VI, 748
 sawfly (*Priophorus tener*), X, 445
 selection, I, 258, 356
 senescence, I, 7
 sprays, VIII, 759
 spur blight (*Didymella applanata*), VIII, 1056
 storage, V, 498; VI, 706; VIII, 894; X, 1229, 1230
 varieties, I, 160-162; IV, 359; VIII, 995; IX, 73, 406, 439; X, 1229
 virus diseases, III, 325, 488; V, 213; VI, 297, 298; VII, 88, 639, 892; IX, 96, 856, 857; X, 102, 1361
 wild, in Siberia, VIII, 410
 winter injury affected by nutrients, V, 585
 yellow blotch curl disease, IX, 96
 yield trials, II, 349
 Rat—
 cacao and tree, VIII, 564
 coconuts damaged by, V, 292; X, 713
 destruction of, VI, 393; VIII, 1190; IX, 236; X, 230
 Rattan, VIII, 899

SUBJECT INDEX

- Rays—
 blue-violet, and carbohydrate formation, VII, 805
 cosmic, VI, 979; IX, 1126
 infra-red for frost protection, IX, 975
 radium, effect on plant, VII, 6
 ultra-violet—
 effect on cinnamic acid, IX, 1107
 glass, effect of growing under, II, 3
 for storage purposes, IV, 699; VIII, 275; IX, 304
- X—
 in breeding, II, 315; IV, 151; V, 258; VII, 19; VIII, 158
 bud treatment and flower development, X, 25
 citrus seed treatment, V, 258
 frost damage determination by, VII, 974
 for fruit examination, VII, 159, 974; VIII, 726; X, 732
 and germination of pecans, IV, 372
 mutations induced by, II, 315; IV, 151; VII, 19; VIII, 158
 pollen treatment, II, 315; VII, 19
 for seed pest detection, IX, 104
 seed treatment, IV, 151, 372; V, 258
- Razors, for budding and grafting, IV, 322
 Recent advances in entomology, IX, 1512
 Recording—
 apparatus, I, 115; V, 524
 methods, I, 115, 323; IV, 177; V, 524; VI, 269, 641
- Red currant—
 chlorosis, IX, 94
 classification, VIII, (715); X, 510
 composition, X, 754
Cronartium spp. immunity to, V, 222
 identification, II, 262
 leaf scorch, III, 46, 47; IX, 94
 manuring, IV, 544; IX, 442, 463
- Red mite of fruit trees (*Paratetranychus pilosus*), V, 407; VII, 903; IX, 1247; X, (378)
- Red scale on citrus, III, 539; IV, 110, 440, 441; V, 100, 101; VI, 367, 862, 865; VII, 169, 730; VIII, 1160; IX, 209, 212, 213, 583; X, (648)
- Red spider, *see* Mite, red spider
- Reducase in apple organs, I, 340
- Refrigeration—
 chambers, portable, III, 440
 of vegetables in transit, IX, 317
- Regeneration, review of literature on, X, 1297
- Reggio Calabria, Res. Stat. for essential oils, Rep. 1929/33, IV, 694
- Registration of fruit trees in Morocco, IV, 155
- Reine Claude floral bud, II, 125
- Reinvigoration by inarching, VI, 657; VII, 25; IX, 777, 1177
- "Reisig," disease of vines, VI, 479; VII, 891; IX, 465
- Renovation—
 of citrus orchard, I, 375; II, 278
 of deciduous orchards, *see also* Topworking, II, 335; IV, 165
- Report—
 on Agricultural Research in Great Britain, VIII, 1380
 Annual, *see* Annual Report.
- Balebonur Coffee Exp. Stat. 1930-1931, III, 239
- biennial, Louisiana Fruit and Truck Exp. Stat., 1937/8, X, 439
- Report (*continued*)—
 Calif. agric. Exp. Stat. 1936/8, IX, 1524
 Canada, Dominion Bot. 1935/7, IX, 1525
 Gold Coast Dep. Agric. 1937/9, X, (450)
 Govt. India, Dep. Educ., Health and Lands, the 6th, X, 1573
 imp. Agric. Res. Inst. New Delhi, scientific, 1937/8-1938/9, X, (450), (1589)
 Kapuskasing Dominion exp. Stat. 1931/6, IX, 707
 Kentville Dominion exp. Stat. 1931/6, IX, 708
 Michigan agric. Exp. Stat. 1936/8, IX, (726)
 Montserrat Dep. Agric. 1936/8, X, (450)
 Morden Dominion exp. Stat. 1931/7, IX, 711
 Palestine Dep. Agric. 1931/2, IV, 147
 Pillnitz a.d. Elbe, State Horticultural College, 1922/32 and 1933/1936, II, 312; VI, 998
 work of Rubber Res. Bd. Ceylon 1933, 1936-1938, IV, 505; VII, 1116; VIII, (1378); X, (450)
 Saanichton Dominion exp. Stat. 1932/6, VIII, 1366
 Summerland Dominion exp. Stat. 1932/6, VIII, 314
 on visit to Malaya, Java, Sumatra and Ceylon, 1938, IX, 1090
 West Virginia agric. Exp. Stat. 1936/8, X, 449
- Reproduction, physiological factors of plant, X, 844
- Research—
 agricultural, in 1937, IX, 349
 in the Empire, I, 380, 381, 426; VI, 421
 in Far East, VI, 155
 in Germany, horticultural, IX, 338
 in U.K., I, 426; VI, 421; IX, 755
- Resins, IX, 330; X, 312, 1100
- Resistance, breeding for, IX, 1140
- Respiration—
 in apple, *see* Apple respiration
 of apple leaves affected by sprays, VI, 762; VII, 354
 in bananas, VII, 493; IX, 1476; X, 1236
 citrus fruit, II, 53; VII, 433
 in fruit, *see also* Storage, V, 25; VI, 219; VII, 235; IX, 1063
 and fruit pressures, VIII, 897
 in grape, II, 151
 in kaki, II, 166
 nitrogen supply and, VI, 436
 in papaw, VIII, 897
 in pear, *see* Pear respiration
 petroleum oil affects, VII, 354
 pigments, in fruit, growth substances affect, IX, 14
 in strawberry fruits, I, 8, 259
 in tomato fruits, IX, 1063
 in tropical fruits in store, VII, 462; VIII, 897; X, 366
 of vegetables after cold storage, VII, 496
- Retama roetam*, root growth in, VIII, 637
- Reversion in black currants, VI, 477; VII, 633, 634
- Reviews of books and monographs, *see* Book Reviews
- Revue horticole suisse*, special number on fruit growing, IV, 10
- Rhabdomancy, bibliography, IX, 27
- Rhagoletis*—
cerasi, *see* Cherry fruit fly
completa, *see* Walnut husk fly
pomonella, VIII, (467), (1072); IX, 1244; X, 1369

SUBJECT INDEX

- Rhea fibre (*Boehmeria nivea*), *see also* Ramie, VII, 181
- Rheum* spp., growth in Switzerland, VII, 115
- Rhipiphorothrips cruentatus*, VII, 904; IX, 479
- Rhizocotona*—
 bataicola in nurseries, VIII, 1050
 in citrus, control by soil acidification, VI, 855
 spp. control, VIII, 744
- Rhizophlypus hyacinthi*, VII, 424
- Rhizopus arrhizus* causes apple rot, X, 112
- Rhodesia—
 agricultural systems of North-Western, VIII, 831
 essential oil production in, II, 411
 fruit growing in Northern, III, 226
- Rhodesian orchards, IX, 1359
- Rhododendron—
 culture, VI, 536
 micranthum, effect of temperature on leaves, III, 77
 propagation, X, 1107
 root grafting, VII, 412
 white fly (*Dialeurodes chittendeni*), V, 431
- Rhone valley, peach growing in, IX, 1146
- Rhubarb—
 beverages, VII, 511
 crown rot, VIII, 128
 eelworm (*Anguillulina dipsaci*), X, (1086)
 historical survey, X, 150
 linseed oil emulsion increases yield, IX, 512
 medicinal, VII, 115
 vitamin C in, VI, 962
- Ribes—
 ancestors of cultivated, IX, 832
 breeding, VIII, 443
 spp. in Great Lakes region, X, 77
 vars. resistant to *Pseudopeziza*, VIII, 443
- Riboflavin as growth substance, X, 1273
- Rice, *see also* Paddy
- Rice—
 storage pests, VIII, 899
 straw decomposition, X, 1164
- Ricinus*, *see* Castor oil plant
- Ring grafting and stock effects, V, 365; VI, 259; VII, 832
- Ringing—
 apparatus for citrus, IV, 258; V, 94
 apple, *see* Apple ringing
 apicot, VII, 849
 the armen poplar, VI, 250
 avocado, VIII, 1170
 citrus, *see* Citrus ringing
 and carbohydrate content of leaves, IX, 72
 and C/N ratio in apples, VIII, 39
 deciduous fruit trees, I, 154; X, 911, 1332
 and fruit drop in pears, VIII, 406
 kaki to reduce fruit drop, IX, 1364
 and mineral uptake, X, 1298
 peach, X, 1331
 pear, I, 251; VIII, 406
 and solute movement, VIII, 405
 tung oil, X, 1143
 vines, *see* Vine ringing
 Zante currant, VIII, 65, 66
- Rio Pedras experiment station, history, VIII, 544
- Ripening—
 acetylene for, *see* Acetylene
 artificial, I, 313; II, 279, 372; III, 128, 603;
 IV, 484; VIII, 581, 582, 886, 1271, 1328;
 IX, 313, 1471; X, 329, 333, 334, 392, 730
 bananas, *see* Banana ripening
 cherries, *see* Cherry ripening
- Ripening (continued)—
 cultural practices affect, V, 366
 dates at Vineland, VIII, 708
 of deciduous fruits, II, 230
 ethylene for, *see* Ethylene
 fruit emanations, *see* Emanations
 of fruits, hydron concentration affects, IV, 179
 of grapes, *see* Vine, grape ripening
 maleic acid affects, *see* Maleic acid
 of peaches, *see* Peach ripening
 of pears, *see* Pear ripening
 of plums, *see* Plum ripening
 seed growth, influence on, V, 188
 tomatoes, *see* Tomato ripening
 and water supply, II, 330
- Rivista di Frutticoltura*, Vol. I, No. 1, VII, 253
- Roads and soil erosion, X, (1214)
- Rodents, control of injury by, I, 155
- Rogas unicolor*, VIII, (1072)
- Root—
 absorption of iron and manganese, VIII, 650
 aeration by compressed air, I, 246
 cell walls and 3-indole-acetic acid, VIII, 625,
 626
 character and drought resistance in sugar
 cane, VIII, 845
 chemotropically excited, VIII, 639
 crops, plot lay out, III, 143
 crown swelling in citrus, V, 436
 cuttings, *see under* particular plant
 diseases—
 of citrus, IV, 438
 damage done by, X, 525
 in rubber, *see* Rubber, root disease
 distribution—
 in plant containers, V, 334
 studies, VIII, 956
 excavation, a method of, X, 1319
 excised, cultivation of, VIII, 638, 948
 exposure to induce dormancy, VII, 559, 960
 forming substances, *see* Growth substances
 graft layering of apple, VIII, 969
 grafting rhododendrons, VII, 412
 gravity, perception of by, III, 4
 growth—
 apple, *see* Apple rootgrowth
 of apple rootstocks, VII, 552; IX, 796
 apricot, X, 490, 875
 banana, X, 300
 before and after defoliation, VI, 664
 black currant, III, 154
 cacao cuttings, IV, 453
 chemical stimulation of, *see* Growth sub-
 stances
 cherry, V, 176; VIII, 680
 citrus, *see* Citrus roots
 coconut, II, 404
 coffee, *see* Coffee root growth
 in cuttings, *see* Cuttings
 damson, V, 176
 of deciduous fruit trees, I, 65, 67, 135;
 III, 292, 451; IV, 328, 330, 524; IX, 422;
 X, 491
 environmental effects in apple, IX, 796-798
 gooseberry, III, 154
 of green manure crops, X, 666
 under irrigation, IV, 175; V, 539
 in some Mediterranean plants, VIII, 637
 nitrogenous fertilizers affect, VIII, 699
 Northern Spy, *see* Northern Spy
 in oil palm, VI, 390

SUBJECT INDEX

- Root, growth (*continued*)—
 and oxygen in soil, **IX**, 422; **X**, 824
peach, *see* Peach root growth
pear, *see* Pear root growth
pecan, *see* Pecan root growth
 in pimento, **X**, 140
pineapple, **III**, 583, 584; **VII**, 478
 of plum rootstocks, **IV**, 172
 in prairie soils, **VI**, 249
 pruning and, **IV**, 36
 in ramie, **X**, 667
raspberry, **VII**, 855
 rootstock effect on, **IV**, 329; **V**, 174, 175, 539, 540
 and rootstock selection, **I**, 31
 scion, **IV**, 325; **VI**, 446, 449; **VII**, 27
 scion influence on, **IV**, 30; **X**, 491
sisal, **IX**, 239, 1389
 and soil, *see* Soil and root growth
 soil—
 block washing in study of, **VII**, 557
 moisture and, *see* Soil moisture and root growth
 temperature affects, **VI**, 248
 stimulation, *see also* Growth substances, **III**, 152, 293, 526; **V**, 521; **VI**, 123, 124, 624, 626; **VIII**, 317-320, 639
 stimulation by hydrocarbon gases, **III**, 526
strawberry, **I**, 10
 studies on tree, **III**, 5; **IX**, 421
sugar cane, *see* Sugar cane root system
tea, *see* Tea root growth
teak, **III**, 587
 temperature and, **III**, 45, 584; **VI**, 14; **X**, 874
 in tropical crops, **III**, 6; **X**, 229
tung oil, **VI**, 880; **X**, (1158)
 in vines, *see* Vine, root systems
walnut, **V**, 176
 affected by water movements, **VI**, 248
 hydrotropic responses of, **VI**, 426
injury and leaf curl in cherry, **V**, 389
 interactions, **IX**, 403
 observation boxes and trenches, **IX**, 797
 pests, chemical control of, **III**, 204
 piece grafting, **V**, 536
 pressure—
 and plant disease, **VI**, 623
 in tomato, **VIII**, 640
 pruning—
 citrus, **VII**, 160
 gas injured trees, **VI**, 625
 vines at transplanting, **VII**, 57, 867
 regeneration—
 in apples, **I**, 33
 in water and sand cultures, **X**, 1299
 renewal in citrus, **II**, 169
 resistance—
 and absorption lag, **VIII**, 641
 and water absorption, **X**, 466
 rot—
 cucumber, **VIII**, 132, 1099; **X**, 1027
 in deciduous fruits, **VIII**, 86
 of strawberry, *see* Strawberry root rot
 of sugar cane, **VIII**, 848
 shoot rot and shanking of tulip, **IX**, 558
 salt—
 accumulation by, **VI**, 621, 622
 migration in, **IX**, 386
 temperature and transpiration in cucumber, **X**, 1061
 Rootlet, viability determination of seed, **X**, 476
- Rootstock, *see also* Stock
 Rootstock—
 absorption:vigour ratio in apple, **IX**, 782
 affects—
 bitter pit, **V**, 590
 composition of scion, **V**, 172; **IX**, 1158
 first season's growth, **IX**, 785
 fruit—
 composition in citrus, **VIII**, 1136
 growth, **VIII**, 974
 leaf area, **II**, 130
 pollination, **VIII**, 375
 pruning results, **VII**, 836
 ripening, **IV**, 326
 root growth, **IV**, 329; **V**, 174, 175, 539, 540
 shoot composition, **VIII**, 983, 984
 silver leaf, **V**, 398
 storage quality, **I**, (109); **V**, 172; **VIII**, 1265; **X**, 70
 almond, *see* Almond rootstocks
 almond, for stone fruit, **X**, 486
 apple, *see* Apple rootstock
 apricot, *see* Apricot rootstocks
 avocado, **V**, 109; **VIII**, 1168
 at Blangsted, apple, **IX**, 780
 Capnodis-resistant, **VI**, 495; **X**, 486
 Cerasus japonica as, **VIII**, 29
 cherry, *see* Cherry rootstocks
 chestnut (sweet), **VII**, 72
 citrus, *see* Citrus rootstocks
 coffee, *see* Coffee rootstocks
 cold resistance in deciduous, **VI**, 60; **VIII**, 374
 crown gall on apple, **VIII**, 743
 deciduous fruit tree, *see particular species*
 in Denmark, **VIII**, 32; **IX**, 780
 dwarfing, **VIII**, 303, 971; **IX**, 416, 417
 at East Malling, work on, *see* Rootstocks, Malling
 from a genetic point of view, **IV**, 31
 grafting and compatibility in, **I**, 336; **VII**, 1120
 grapefruit, **II**, 367; **IX**, 566
 in Great Britain, **X**, 865
 growth affected by previous fruit crops, **V**, 538
 hardy, *see also particular species*, **VIII**, 374, 976; **X**, 1574
 immune to woolly aphid, *see* Woolly aphid, stocks immune
 marching apple, **VII**, 25; **IX**, 777, 1177
 intermediate in apples, *see* Apple, double working
 internal structure of roots of apple, **IX**, 784
 kaki, **IV**, 174; **IX**, 961; **X**, 1146
 Körnik investigations, **IX**, 779
 lemon, *see* Lemon rootstocks and Rough lemon
 lime, *see* Lime, rootstocks for
 loquat, **IV**, 168
 mahaleb, *see* Mahaleb
 Malling—
 for McIntosh and Wealthy, **VI**, 263
 in Russia, **VIII**, 971
 in U.S.A., **X**, 867
 work at East Malling, **IX**, 415
 mango, **IV**, 610; **VIII**, 571
 manual on deciduous, **IX**, 339
 used in Morocco, **IV**, 168
 nematode-resistant, **X**, (866)
 Northern Spy, *see* Apple, Northern Spy as rootstock

SUBJECT INDEX

Rootstock (*continued*)—

olive, *see* Olive rootstocks
 orange, *see* Orange rootstocks
 in Palestine, X, 486
 parthenocarpy as aid to selection, VIII, 980
 peach, *see* Peach rootstocks
 pear, *see* Pear rootstocks
 peat for raising apple and quince, I, 226
 pecan, IX, 840
 plum, *see* Plum rootstocks
 propagation of deciduous, VI, 650; VII, 286; IX, 45

Prunus, cytology of, II, 323

pummelo as, IX, 566
 quince, *see* Quince rootstocks

root—

and stem influence of, IV, 170
 structure, correlation with vigour of, IX, 784
 rose, IV, 93
 rough lemon as, *see* Rough lemon
 rubber, *see* Rubber rootstocks
 :scion relations in fruit trees, *see also* Stock:
 scion influence, VII, 1120
 and scion rooting, IV, 325
 seedling, importance of, VIII, 676, 975;
 IX, 1160
 selection according to rooting and callusing,
 I, 31

standardization, urged in Italy, IV, 31

standards for testing, VIII, 970

at Stellenbosch, S. Africa, VI, 650

stone fruit, *see* Stone fruits, rootstocks

sweet lime, X, 632

in U.S.S.R., VIII, 374, 971

variability on seedling and on clonal apple,
 VII, 553

vine, *see* Vine rootstocks

at Vineland, Ont., X, 868

walnut, *see* Walnut rootstocks

woolly aphid immune, *see* Woolly aphid,
 stocks immune to

Root tips, growth of fragments of, VI, 434

Rosa genus starch content: propagation by cuttings,
 IX, 1316

Rosaceous—

seeds, germination and storing of, I, 331

species, growth substances for, IX, 5

Rose—

aphides, V, 432

apple (*Eugenia jambos*), VIII, 1233

Asiatic, VII, 410

bichloride of mercury, affected by, III, 521

black spot disease, VIII, 506; IX, 178

Botrytis cinerea, cause of spot disease on,
 VIII, 507

brand canker of (*Coniothyrium wernsdorffiae*),
 IV, 421

breeding in America, III, 520

canker (*Griphosphaeria corticola*), IX, 949

cuttings, IV, 249; IX, 1316

diseases, V, 253; VIII, 506; X, 621, 1110

effect of storing on forcing qualities, V, 662

essential oil hybrids, IX, 950

flower bud, IV, 248

graft canker, VIII, 506

growing—

in Canada, V, 663

in Great Britain, VIII, 497

in the Sahara, VIII, 522

growth—

affected by lime-potash law, IX, 1317

substances for cuttings, VIII, 629; IX, 17

Rose (*continued*)—

house culture, IX, 552

mildews, VIII, 163, 506; IX, 948

morphology of shoots, IV, 248

mosaic, X, 621

mulching, X, 623

propagation by cuttings, IV, 249; VIII, 629;

IX, 1316

rootstocks, IV, 93

rust (*Phragmidium* sp.), VI, 820; VIII, 161,

506; IX, 553; X, 624

for scent production, VIII, 1114

shoots, IV, 248, 249

soil for, V, 76

thrips (*Thrips fuscipennis*), VI, 821; VIII, 151,

1116

varieties, IV, 94; VII, 410; IX, 552

Rosette or little leaf, *see also* Little leaf

Rosette of tobacco, IX, 164, 165

Rosha grass, essential oil in, V, 704

Rotation—

affecting tomato yield, III, 180

in oil crop zone, X, 1097

Rotenoids in *Papilionaceae*, X, 1012

Rotenone—

content of derris, *see* Derris chemical

composition

-holding powder for grape moth, VIII, 465

plants—

of Amazon, VII, 178

of S. America, VIII, 837, 838

toxicity, VII, 356; IX, (547)

Rough lemon—

propagation by cuttings, IV, 608

as rootstock for citrus, II, 275; IV, 608;

V, 90; IX, 566

Royal Horticultural Society's Gardens, Wisley,
 IV, 1

Rubber—

anatomy of *H. brasiliensis*, II, 186

Asclepias erosa as source, VIII, 567

artificial, VII, 1038; IX, 331

bands used in budding fruit trees, III, 290

bark renewal affected by fungicides, IX, 1425

buds, effect of fungicides on, II, 184

budded—

care of young, IX, 268

in Ceylon, some aspects of, XI, 1478

density trials, VIII, 241; X, 1476

growth and yield in Belgian Congo, X,
 1480

stumps, care of young, VII, 1036; IX, 268,

269

tapping system for, VII, 461

yields of, II, 288

budding(s)—

or clonal seedling ?, X, 278, 1475

growth and callus formation at the, IV,
 276

high, some data on, II, 79

manual, IX, 1413

methods, II, 80, 81, 401; III, 404; IV, 645;

IX, 267, 1413, 1415

monoclonal, use of, IV, 470

reasons for, IX, 1414

selection of, III, 244

stock:scion relation, *see* Rubber, stock:scion

of tested clones, planting systems, I, 399

callus formation in, IV, 123, 276

chemical composition of tree, IX, 1423

clearing the ground for, IX, 274

clonal seedlings *versus* buddings, X, 278, 1475

SUBJECT INDEX

- Rubber (*continued*)—
clones—
 A.V.R.O.S. tapping results, X, 700
 description of and identification of, I, 191,
 287; III, 563, 566; IV, 122; V, 709;
 VIII, 866; IX, 1416; X, 279
 at Tjiomas-II station, X, 279
 versus seedlings, *see* Rubber, seedlings
coffee as interplant for, IX, 1418
coffee and tobacco research station, Besoe-kisch, IX, 715; X, 1570
composts for, X, 283
cover crops for, II, 83; III, 98, 109; V, 129,
 130; VII, 1001; IX, 273, 274; X, 284
covers, for use of natural, V, 712
Cryptostegia as source, V, 289
cultivation, *see* planting
cultivation operations, III, 109; VIII, 566
cuttings, V, 482; IX, 1421
deer control in plantations of, X, 1488
diseases, II, 82; III, 568; VI, 582
dressings for tree wounds, II, 13
drought and fire damage, X, 1202
drying, IX, 332
experimentation methods, I, 96, 395
Fomes and other root diseases, VIII, 243
fungicide, effect on budwood of, II, 184
fungicides, VI, 582; VIII, 868; IX, 1425
golden rod as source, VI, 538; IX, 1426
grafting, stump, III, 108
green manuring, II, 83; III, 98, 109; V, 129,
 130
guayule, a source, IV, 643; VIII, 870;
 IX, 594; X, 1144, 1145
heat and sun-scorch effects, X, 703
Hevea discoverers, VII, 206
identification, I, 191, 287, 397
improvement of planting material, IV, 470
killing with sodium arsenite, X, 288
kok-saghzy as source of, IX, 996, (1427)
lalang grass, effect on growth, IX, 272
lands, exhausted, II, 400
latex—
 bore theory, I, 289, 290
 coagulant for, X, 406, (407)
lightning affects disease in, III, 251
manuring, *see also* green manuring, II, 182;
 VI, 917; VIII, 867; IX, 274-276, 636,
 1423; X, 282, 283, 701, 702, 1199, 1200,
 1486, 1487
marcots *versus* seedlings, III, 564
mother tree selection, II, 77, 78
mouldy rot (*Ceratostomella fimbriata*), VI, 582
nursery—
 selection, X, 1481
 sites, VII, 1037
nutrient element distribution in, IX, 1422, 1423
oidium disease, VII, 753; X, 287
palm oil diluent effect on bark renewal,
 IX, 1425
Parthenium argentatum as source, *see* guayule
pests, VIII, 899
phyllotaxis in, I, 396
physiology of *H. brasiliensis*, II, 186
plant hormones for use in propagation,
 IX, 1421; X, 281
planting—
 in Belgian Congo, IX, 260; X, 1480
 density, VIII, 241; X, 1476
 in dry zones, IX, 634
 in Dutch East Indies, II, 76; VI, 175;
 VIII, 842; IX, 261
 in Florida, VI, 174
 on forestry lines, II, 75, 420; V, 129, 712
 in India, II, 76
 in Indo-China, III, 404; IX, 259, 262
 in Malaya, III, 562
 material, V, 708; X, 278, 1475
 preparation of ground for, X, 1482
 without burning, X, 276
plants—
 of Caucasus and Central Asia, VIII, 245
 other than *Hevea*, II, 185; IV, 643; V, 289,
 714; VI, 538, 583; VIII, 244, 245, 567,
 870; IX, 278, 594, 996, 1426, (1427),
 X, 1144, 1145, 1489, 1490
Russian experience, *see* Rubber production
 in U.S.S.R.
 of West Thian-Schan, VIII, 244
plasticity in, I, 293
pollen storage, IX, 263
pollination, I, 288
powder, IX, 333
production—
 in temperate zones (not *Hevea*), II, 399
 in U.S.S.R. (not *Hevea*), II, 185; VI, 583;
 VIII, 244, 245, 870; IX, 278, 594, 996,
 1426; X, 1489, 1490
propagation II, 77-81, 184, 288, 401; III, 108;
 404, 565; IV, 120-123, 276, 645; V, 482;
 VII, 752; IX, 267-269, 1413-1416, 1421;
 X, 278, 1198, 1479
pruning, II, 402
publications in 1930 on, I, 394
quality of raw, X, 405
rejuvenating, III, 565
replanting, VI, 581; IX, 686, 1029; X, 277,
 1483, 1484
Res. Bd. Ceylon, report on work 1933 and
 1936-1939, IV, 550; VII, 1169; VIII,
 (1378); X, (450), 1565
Res. Inst. of Malaya A.R. 1935-1938,
 VI, 999; IX, 710; X, 441
rest-period affects yield, VIII, 869
root—
 disease, II, 82; VIII, 243; IX, 279-281,
 1424; X, 277
 formation, aids to lateral, X, 280
rootstocks, I, 400; IX, 265, 266; X, 1479
seed—
 garden lay out, IX, 1417
 germination, IX, 264
 selection, V, 708, 711
 storage, II, 289
seedlings—
 clonal, X, 278
 selection, IV, 644
 twinning of, X, 1198
 versus clones for planting, III, 564; IV,
 121; V, 708; X, 278, 1475, 1478
selection, *see also* nursery selection, VIII,
 1227; X, 1477
as shade for coffee, X, 688
shade effect on, VI, 383
sheet, manufacture of, II, 183
smoke house for, IX, 332
and soil erosion, VIII, 242
Solidago as source of, VI, 538; IX, 1426
spacing and thinning experiments, IX, 1419
specific gravity, X, 762
stock-scion relations, I, 400; III, 245; VIII,
 1227; IX, 265, 635
strip planting with coffee, IX, 1418

SUBJECT INDEX

- Rubber (*continued*)—
 strips for budding, III, 290
 stumped buddings, VII, 1036; IX, 268, 269
 tapping—
 panel, heat and sun scorch, X, 1202
 slaughter, X, 1483
 systems, I, 291, 292; III, 567; VII, 461;
 VIII, 868; IX, 277; X, 285, 286, 1201,
 1483, 1485
 thinning, III, 405; IX, 270, 1419
 thrips, V, 713
 from tomato skins, IX, 331
 transplanting—
 dormant stumps, VII, 1036; IX, 268, 269
 pre-treatment, X, 280
 not by stump method, IX, 1420
 trunk girth increase, IX, 271
 tyres for farm carts, V, 161
 undergrowth, natural, V, 130
 world production, IX, 700
 yields, V, 710
- Rubidium absorption by potato discs, X, (847)
- Rubus*—
 aphides, X, 553, 1361
 breeding, IV, 49; X, 923
 chromosome numbers in, X, 922, 923
 ecological variation, VIII, (715)
 leaf bud cuttings, VI, 702, 703
loganobaccus, see Loganberry
macropetalus breeding, IV, 49
 spp.—
 in China, X, 508
 as weeds, VIII, 829
Verticillium wilt of, VII, 71
 yellow rust (*Phragmidium rubi-idae*), IV, 559
- Rum manufacture, X, 1535
- Running off in black currants, VII, 890
- Russet in apples, *see* Apple russet
- Russia, *see* U.S.S.R.
- Rust—
 antirrhinum, *see* Antirrhinum rust
 apple, *see* Apple rust
 asparagus, *see* Asparagus rust
 on coffee, IV, 452
Phragmidium, on rose, *see* Rose rust
 on *Rubus*, yellow, IV, 559
- Rutaceae, classification, VII, 430; VIII, 1124
- Saanichton Dominion exp. Stat., B.C., results of experiments 1932-6, VIII, 1366
- Sacaton, Ariz., investigations at, IX, 217
- Sack-band, fauna in weevil, IX, 106
- Safflower (*Carthamus tinctorius*), cultivation, X, 219
- Sago palm (*Metroxylon* spp.)—
 in Malaya, VII, 1011
 products, II, 379
- Sahara—
 plants of the, III, 94
 roses and citrus in, VIII, 522
- Sahlbergella* blast in cacao, X, 1189
- Saissetia oleae*, insect enemies of, X, (226)
- Salad crops—
 breeding and improvement, VIII, 129
 cultivation and varieties, II, 270; VII, 788
 manual on, IX, 351
- Salak (*Salacca edulis*), VIII, 1238
- Salicylic aldehyde in soil, VIII, 848
- Salix* spp. (*see also* Willow), *Pyrausta nubilalis*, a pest of, IX, 219
- Salt—
 absorption by plants, X, (847)
 common, as fertilizer, VIII, 952
 migration in roots, IX, 386
 nutrition of higher plants, IX, 390
 soluble in vineyards, IV, 205, 207
 upward and lateral movement of, IX, 1138
- Salvia as commercial pot-plants, VIII, 500
- Samoa, soils and agriculture in, VIII, 1184
- Samples in experimental work, size of, IV, 515
- Sampling—
 apple terminal shoots, VII, 565
 in storage trials, VIII, 1263
 technique, V, 198; VI, 641; VII, 565; VIII, 709
- San José (or Pernicious) scale, *see* *Aspidiotus perniciosus*
- Sand—
 box tree (*Hura crepitans*), X, 272
 culture, VIII, 947; IX, 390, 393, 394
 culture—
 automatically operated, VII, 9; VIII, 947
 peach trials in, IV, 351
 vegetable experiments in, IV, 81; X, 142
 dunes, plants for the, IX, 748
- Sandal, spike disease in, V, 701, 702
- Sandoricum koetjape*, vegetative propagation, VIII, 220
- Sanio's bars, *see also* Vine, cambium, VI, 479; VII, 891
- Sanitation, *see* Hygiene
- Sann hemp, *see* Sunn hemp
- Sansevieria stuckeyi*, a fibre plant, VII, 1009
- Santol, *see* *Sandoricum*
- Santra orange, V, 89, 90
- Sap—
 ascent in trees, VI, 7
 investigations in vines, VII, 49
 tracheal, copper and iron in, IV, 180
- Saperda candida*, X, 1367
- Sapodilla, *see also* Chico, VIII, 1234
- Sapote, the white, *see* *Casimiroa edulis*
- Sapucaia nut (*Lecythis* sp.), VII, 213
- Sapucainha, II, 397; IX, 631, 632
- Sarcina lutea*, a bacterium known to produce growth substances, IX, 19
- Saskatchewan, fruit growing in, IV, 11
- Satsuma, *see* Mandarin, Unshiu
- Sawarie nut (*Caryocar nuciferum*), VI, 923
- Sawfly—
 apple (*Hoplocampa testudinea*), *see* Apple sawfly
 gooseberry (*Nematus ribesii*), VI, 315
 plum (*Hoplocampa* spp.), *see* Plum sawfly
 quassia control of, VII, 905, 906; VIII, 758, 1070
- Scab, *see under* Apple and other fruits
- Scald—
 apple, *see* Apple scald
 soft, of apple, *see* Apple, soft scald
 superficial apple, IV, 290; X, 318, 1223
- Scale insects—
Aonidiella berlese and *leonardi*, VIII, 1161
Aonidiella spp., *see* *Aonidiella*
 on avocado, *see* Avocado, scales
 the black (*Saissetia oleae*), predators on, X, (226)
 of Black Sea coast, IX, 218
 camphor (*Pseudaonidia duplex*), V, 54;
 VI, 101
 citrus, *see* Citrus scales
 the destructor (*Aspidiotus destructor*), V, 722

SUBJECT INDEX

- Scale insects (*continued*)—
 distinguishing characteristics of, VIII, 192
 fringed, of coffee (*Asterolecanium*), III, 240
 fungal control, VI, 862; X, 647
 and hosts in S. Africa, VII, 84
 influence of temperature and humidity on, IV, 440.
Lepidosaphes spp., *see Lepidosaphes* spp.
 on mango (*Puto spinosus* and *Coccus mangiferae*), VII, 211
 on pecan (*Chrysomphalus obscurus*), IX, 486
 the San José, *see Aspidiotus perniciosus*
 Scale, weighing, for field use, VII, 994, 995
 Schraderhof fruit research institute, VIII, 677
Sciadopitys verticillata, propagation with aid of growth substances, IX, (1121)
 Science Library London, list of publications, X, 429
 Science progress in 1938, IX, 727
Scientific Horticulture (prior to Vol. III known as Yearbook of the Horticultural Educational Association), III, 131, 614; V, 160; VI, 236; VII, 254; VIII, 309; IX, 350; X, 434
 Scientific—
 and industrial research in N.Z. 1927-38, X, 444
 principles of plant protection, the, VI, 613; X, 1261
 reports imp. agric. Res. Institute New Delhi, 1937-1939, X, (450), (1589)
 terms, dictionary of, X, 408
 Scion influence—
 on apple roots, III, 11; IV, 30
 in citrus, IV, 429
 of position of top bud on, I, 126
 in quince, III, 11
 rooting, *see Apple scion rooting*
Scirotothrips signipennis, *see Banana thrips*
Scerotinia—
 in Bulgaria, IX, 477
 calcium cyanamide for control of, IX, 1229
cineraria—
 on apple, II, 344
 on cherry, II, 344; VII, 344; IX, 1230
 on plum, II, 344; IV, 381
 diseases of fruit trees, II, 344; IV, 381, 561; V, 221, 325, 394; VII, 344, 646, 769; VIII, (1072); IX, 477, (866), 1229-1231, 1458; X, 542, 1363
fructicola, VIII, (1072); IX, 1229, 1231, 1458
fructigena, IV, 381; V, 325, 394; VII, 769; IX, 477; X, 1363
 in hop, VI, 519
laxa, V, 221, 325, 394; VII, 769; IX, 477, 1231; X, 1363
libertiana, disease in market garden plants, VIII, 482
mali, IV, 561; VII, 646; IX, 477; X, 542
minor in lettuce, VIII, 477; X, 591
 of potato, VI, 336
pseudotuberosa in chestnut, VI, 79
 on runner beans, VIII, 770
 in squash and pumpkin, VI, 341
 in stone fruits, IX, 1231
 in stored fruit, VII, 769
Sclerotium—
 cepivorum in onion, VIII, 770
rolfsii—
 on apple stock, III, 198
 on ginger seed, VIII, 236
tuliparum, VII, 425
Scolothrips sexmaculatus, parasite on red spider, VIII, 1084
Scorzonerai tau-saghyz, VI, 583; IX, 278
 Scotland, development of horticulture in, II, 212
 Scott Agricultural Laboratories, Kenya, III, 551; X, 1179
Scutigerella immaculata, III, 364; V, 413; IX, 105
 Seakale—
 deterioration and diseases, VII, 690
 growth substances and, IX, 362; X, 1272
 Seale Hayne agric. Coll. Dep. Plant Path. A.R. 1937/8, IX, 1540
 Seasonal influence on set of fruit, V, 23
Sedum, hardiness in, VI, 817; IX, 462
 Seed—
 of aromatic plants, photographs, IX, 1309
 beds, electrical heating of, VII, 402
 biology of woody plants, X, 463
 -borne pathogens, IX, 171
 characteristics related to age of fruit trees, III, 9
 citrus, viability of, X, 191
 farm and garden, production of, VIII, 916
 fermentation to control disease, IX, 456
 garden, the Bangelan coffee, III, 392
 germination—
 accelerating process, III, 147; IV, 519; VI, 651, 671; VIII, 1074; IX, 592, 899
 and dormancy, Boyce Thompson work on, IX, 382
 and growth substances, VIII, 339; IX, 1, 3, (1121); X, 805-807
 inhibited by fruit juice, X, 1065
 and light in lobelia, VI, 532
 nutrition and physiological age of plant affect, VIII, 1075
 in pepper, VI, 769
 and temperature, III, 367
 inoculation, X, 1081, 1082
 longevity of, IX, 381, 902
 of medicinal plants, photographs, IX, 1309
 and moisture exchange, VIII, 642
 number—
 related to fruit drop, IV, 1167
 related to size and quality of fruit, IX, 812; X, 65
 oil, V, 127; VIII, 795, 797
 onion, longevity of, IX, 902
 pea, variation in, III, 182
 pear, dormancy in, IX, 1152
 pickling agents and infected vegetable, IX, (173)
 plum, storage of, II, 108
 pome fruit, storage of, IX, 42
 propagation by, VIII, 647
 rosaceous, storage of, I, 331
 rubber, storage of, II, 289
 of spice plants, photographs, IX, 1309
 sterilization, calcium hypochlorite for, VIII, 144; IX, 519
 stone fruit, storage of, IX, 42
 storage of various, I, 331; II, 108, 289, 361; III, 522; V, 126; VI, 812; VIII, 916; IX, 42, 772, 902, 1261, 1314, 1520; X, 1035, 1311
 testing, VIII, 648; IX, 383
 tomato, virus transmission in, III, 189
 treatment—
 with bordeaux, IX, 520
 with bromine, VIII, 371
 with chloropicrine, VI, 163
 with coal tar kerosene emulsion, V, 145

SUBJECT INDEX

- Seed, treatment (continued)—**
- with corrosive sublimate, **VIII**, 236
 - against damping-off, **VIII**, 744; **IX**, 476
 - with growth substances, **VIII**, 339, 1074; **IX**, 1, 3, 9, 10, (369), (1121), 1293; **X**, 7, 805-808, (1283)
 - with heat, **IX**, 456; **X**, 597
 - with mercury compounds, **VIII**, 236; **X**, (460)
 - with pickling agents, **IX**, (173)
 - with sulphur compounds, **X**, 154
 - with X rays, **IV**, 151
- vegetable—**
- pickling of infected, **IX**, (173)
 - production of, **VIII**, 916
 - storage of, **IX**, 1261
 - umbelliferous, hastening germination in, **IX**, 899
 - viability of, **VI**, 404
 - viability—
determination of, **VIII**, 648; **IX**, 383
in general, **III**, 441
- Seedlessness—**
- in citrus, *see* Citrus seedlessness
 - in grapes, *see* Vine, grapes, seedless
- Seedling—**
- acceleration of fruiting in, **VII**, 543; **VIII**, 968; **X**, 1310
 - culture in sand, **VI**, 327
 - development affected by grafting, **IX**, 1155
 - dormancy affected by length of day in *Pinus resinosa*, **IX**, 384
 - new methods of raising, **IV**, 519; **VI**, 651, 671
 - response to light and temperature differs from that of cuttings, **X**, 1108
 - rootstocks, importance of deciduous, **VIII**, 676, 975; **IX**, 1160
 - superphosphate and growth of, **VII**, 406
 - wick culture of, **VIII**, 646
- Seekay wax for tree banding, **VIII**, 755**
- Selection, *see also* particular plants—**
- Selection—**
- in apogamic and clonal progenies, **II**, 159
 - of deciduous fruit trees, **I**, 120
- Selenium—**
- absorption by citrus and grapes, **VIII**, 1139; **IX**, 215
 - in soil, **IX**, 26
 - as spray, **VIII**, 1139; **IX**, 215
- Self-fertility—**
- and sterility in apple, **I**, 27
 - and sterility in plum, **III**, 23; **IV**, 337
- Self-sterility and cropping, **IX**, 455**
- Self-rooted trees, production of, **VIII**, 969**
- Senecio jacobaea* control, **VIII**, 460; **X**, 1005, 1377**
- Senegal, groundnut growing in, **II**, 189**
- Senescence in plants, **I**, 7, 41, 228**
- Septoria*—**
- apii* in celery, **VI**, 335; **IX**, 456
 - lycopersici* of tomato, **VIII**, 490
 - ribis* of black currants, **IX**, 855, 865
- Serdang, Government experiment plantation at, **IV**, 124**
- Sesame—**
- delayed germination, **X**, 696
 - as oil plant, **III**, 561; **VIII**, 155
 - storage pests, **VIII**, 899
- Sexava* spp., **IX**, 643; **X**, 1502**
- Seychelles Dep. Agric. A.R. 1936-1938, **VIII**, (1378); **IX**, (726); **X**, (450)**
- Shade—**
- for cacao, **I**, 383, 391
- Shade (continued)—**
- for coffee, *see* Coffee shading
 - for tea, **I**, 279; **X**, 255, 688, 1443
 - trees—
fertilizers for, **VII**, 954
leaf-feeding insects on, **IX**, 117
- Shading—**
- affects woolliness in peaches, **X**, 906
 - and fruit bud formation, **VIII**, 985
- Shallot fertilizers, **VIII**, 470**
- Shelter belts, **III**, 32; **IV**, 611; **VI**, 735; **VII**, 629**
- Sherry, rancio flavour in, **IX**, 676**
- Shipments—**
- of fruit, Australia, **II**, 199
 - of peaches, **II**, 203
- Shoe flower (*Hibiscus rosa-sinensis*), **IV**, 123; **IX**, 1052**
- Shoot—**
- apple, composition affected by rootstock, **V**, 172
 - growth: fruit weight ratio in filbert, **VII**, 597
 - heights, observer's bias in selecting, **VI**, 641
- Shorea* sp., **IV**, 280**
- Short day—**
- plants, flowering induced by grafting, **X**, 29
 - treatment in sweet potato breeding, **IX**, 1361
- Shot-hole disease of stone fruit, *see also* *Coryneum*, **VIII**, 747**
- Show, Imperial Fruit, 1931, **II**, 1**
- Shrubs—**
- flowering, **IV**, 17, 419; **VII**, 411
 - manuring, **III**, 63
 - eradication of poisonous, **IX**, 1001
 - propagation by cuttings, **IV**, 324; **VIII**, 366; **IX**, 11, 43, 230, (121)
 - pruning of flowering, **VII**, 411
 - response to length of day, **V**, 665
 - transplanting, **III**, 3
 - winter hardiness in, **V**, 664
- Siberia—**
- apples in, **VIII**, 365
 - berry fruits in, **VIII**, 410, 411
- Sicily, citrus growing in, **III**, 214, 215**
- Sierra Leone—**
- Dep. Agric. A.R. 1935-1937, **VI**, 1000; **VIII**, 1367; **IX**, (726)
 - pests in, **VIII**, 840
- Silicates for citrus and tung, **IX**, 589**
- Silks—**
- artificial affected by organic acids, **VIII**, 620
 - wild, **VIII**, 269
- Silkworm—**
- mulberry leaves for, **V**, 22
 - raising, **VIII**, 1003
- Silver leaf (*Stereum purpureum*), **III**, 500; **V**, 398; **VI**, 487; **VIII**, 1055; **X**, 855, 988**
- Silver leaf (*S. purpureum*), on pear, **VIII**, 1055**
- Silver nitrate:potassium cyanide, disinfection of bulbs, **III**, 524**
- Silverweed (*Potentilla anserina*), host of strawberry aphid, **VIII**, 752**
- Sisal, *see also* Agave, **I**, 384, 385; **IX**, 238**
- Sisal—**
- exp. Stat. Tanganyika, A.R., 1937, **VIII**, 1373
 - fibre length and grading, **VI**, 688; **VIII**, 1195; **X**, 681
 - root system, **IX**, 239, 1389
 - waste utilization, **VIII**, 1196, 1197; **IX**, 240, 1390
- Size—**
- differences, age effect on, in orchard trees, **IX**, 1157

SUBJECT INDEX

- Size (continued)—**
- of tree affecting records of apple roots and stems, IV, 177
 - Skeptical gardener, the, X, 768
 - Skiernevice institute of fruit growing, VIII, 666
 - Slit-grafting, X, 863
 - Sloes, biochemistry of, VIII, 386
 - Slugs—
 - control by Meta, VII, 703, 920; IX, 504; X, 137, 677
 - control in sub-tropics, VIII, 1182
 - Small fruits, *see also* Soft fruits
 - Small fruits—
 - breeding, II, 348
 - diseases, market, IX, 1218
 - flora, IX, 1513
 - in Germany, V, 201
 - irrigation, VI, 710; VII, 40, 41
 - manuring, I, 260; III, 63
 - packing, VI, 965
 - in U.S.S.R., VIII, 357
 - Small holdings in U.K., IX, 342
 - Smudging of mango, *see* Mango smudging
 - Snail—
 - control, IX, 235, 504, 1382; X, 1135
 - control of giant, VIII, 1189; IX, 235, 1382
 - Snapdragon, *see* *Antirrhinum*
 - Snowflake (*Leucoum aestivum*), VIII, 1120
 - Sodium—
 - arsenite as herbicide, VIII, 461; IX, 503; X, 288, 1503
 - chlorate—
 - as herbicide, IV, 79, 80; VI, 589; VII, 89; VIII, 461; IX, 503, 1252-1254; X, 578
 - injury, IV, 363; IX, 503; X, 478
 - chloride injury, III, 362
 - dinitro-ortho cresylate for weeds, X, 617
 - fluosilicate and soya bean photosynthesis, IX, 1305
 - isotopes for studying salt movement, IX, 1138
 - nitrate injury to red currants, IX, 463
 - silicate in pear wrappers, III, 596
 - sulphate injury, IX, 463
 - Soft fruits—
 - bulletin on, IV, 499; VII, 249
 - varieties at Wisley, VI, 41
 - Sohphol khasi, apple rootstock, X, 1554
 - Soil—
 - absorption processes, X, (42)
 - acidity—
 - and disease control, IX, 456
 - and fertilizer response, V, 26
 - and fruit growing, X, 902
 - and sulphur dusting, X, 903
 - and tea growth, II, 381
 - alkali—
 - and citrus, V, 264; VIII, 529
 - reclamation of, IV, 511
 - alkaline, fertilizers for, VI, 842
 - amendment, II, 334; VI, 427
 - analysis, VI, 428; VII, 802
 - apple, *see* Apple soils
 - and apple root growth, IX, 66
 - Besoeki, VIII, 850-852
 - bibliography 1931-1934, V, 746
 - block washing method, VII, 557
 - cacao, *see* Cacao soils
 - chemical treatment of exhausted, VI, 427
 - citrus, *see* Citrus soils
 - clay, apple rootgrowth in, III, 13
 - and coconut nut fall, X, 296
 - coffee, *see* Coffee soil
 - Soil (continued)—**
 - compactness, apparatus for measuring, IV, 510
 - conservation—
 - of fertility, *see* erosion
 - in tropics, X, (1510)
 - and cover crops, III, 471; IV, 38
 - deficiencies, peach, VII, 613
 - deficiency studies, II, 213; III, 357; IX, 845
 - disinfection, *see also* sterilization
 - disinfection by electricity, VII, 528
 - drainage of Besoeki tobacco soils, VIII, 850
 - in East Usambara, Tanganyika, VIII, 1205
 - erosion—
 - in Azerbaijan, humid sub-tropics, X, (1158)
 - in Basutoland, X, 1555
 - on Black Sea coast, X, 1139
 - in California, III, 7
 - in Ceylon, VII, 734; VIII, 832
 - and coffee growing, VI, 569; VIII, 562
 - and cotton lands, III, 591
 - in Cyprus, VII, 988; X, 40
 - experiment stations in U.S.A., V, 1
 - forests and, VI, 247
 - in general, V, 683; VII, 12; VIII, 209; IX, (754), 1142; X, 1543
 - and humus, X, 826
 - in India, X, 231, 232
 - in Jamaica, IX, 1005
 - in Java, VIII, 1186
 - land movements in relation to, X, (1510)
 - legislation, IX, 1379
 - manual on, X, 1543
 - in Mauritius, X, 233
 - prevented by sowing *Hothus corniculatus*, X, 1139
 - report of Ceylon Cttee., VII, 734
 - road and, X, (1214)
 - and rubber, VIII, 242
 - in S. Rhodesia, IV, 445; VII, 800; X, 1296
 - in Tanganyika, VIII, 833
 - in tea districts, III, 391, 590; IV, 270; VII, 734; VIII, 832; X, 1446
 - in U.S.A., III, 7; V, 1; VIII, 651
 - factors and tree growth, X, 822
 - fertility—
 - on coffee estates, VI, 569
 - experiments, III, 469
 - and fertilizers, I, 46, 52; II, 105; X, (237)
 - flooding induces cork in apple, X, 959
 - and flower growing, VI, 528
 - and fruit growing—
 - in Cambridgeshire, III, 436
 - in Kent, IV, 692
 - at Long Ashton, VII, 576
 - in N. York State, III, 153; IV, 508; VI, 275; VII, 577, 582; VIII, 42; IX, 64, 820, 821
 - fumigation, X, 1064
 - in glasshouses, use of old, V, 76
 - heating, III, 176, 349, 437; IV, 84, 589, 593; V, 81; VIII, 1077; IX, 132
 - heterauxin application to, VI, 429
 - hop, IX, 930
 - hygrometer, V, 282, 539; VI, 424, 425
 - injections with fertilizer, I, 246, 347; III, 301; IV, 189, 587; IX, 67; X, 833
 - at Long Ashton research station, VII, 576
 - Lower Greensand fruit, IV, 692
 - of Malaya, III, 589

SUBJECT INDEX

- Soil (continued)—**
- management—
 - in the orchard, VIII, 1335; IX, 1182
 - affects pecan nut size, VII, 599
 - in temperate zones, III, 470
 - manganese in cacao, VI, 578
 - microflora and little leaf, VII, 881
 - micro-organisms and bush fires, X, 1163
 - influences mineral content of shoots, X, 1322
 - leaching, VIII, 651
 - moisture—
 - affected by mulching, VI, 687
 - and apples, *see* Apple and soil moisture
 - and blossoming, V, 190
 - capacity and cover crop, VIII, 698
 - and citrus, *see* Citrus, soil moisture
 - and cotton, I, 273
 - and cover crops, VIII, 698
 - and cultivation, VII, 36
 - and damping-off, VIII, 744
 - dynamics of, III, 306
 - exchange, VIII, 642
 - fluctuations, IX, 820
 - and fruit buds, V, 190
 - and fruit set in citrus, X, 1119
 - and irrigation, VII, 36
 - and lemons, VI, 844; IX, 972
 - measurement, V, 282, 539; VI, 424, 425; IX, 818; X, 823
 - and paper mulching, II, 4
 - and peaches, *see* Peach, soil moisture
 - and pears, *see* Pear, soil moisture
 - and pecans, VI, 288; VII, 599
 - and *Prunus* spp., V, 548
 - and root growth, V, 346, 539; VI, 426; VIII, 391; IX, 808
 - and storage quality—
 - of apple, VIII, 693
 - of pear, VIII, 694
 - and strawberries, VI, 425
 - and tea, II, 381
 - and walnuts, X, 1349
 - mulch, effect on temperature, III, 2
 - nitrogen—
 - affects absorption by lemon leaves, VII, 720
 - and cover crops, VIII, 697, 698
 - determination, VI, 563
 - nitrogenous manuring affects, VIII, 699
 - organic matter and apples, *see* Apple, soil organic matter
 - for oranges, VII, 717; X, 199
 - oxidation:reduction potential, IV, 508; V, 526; VIII, 42
 - oxygen and root growth, IX, 422; X, 824
 - of Palestine, manurial needs of, IX, 1356
 - pasteurization, electrical, V, 242; VI, 106
 - pear, management of, VII, 578
 - pecan, IX, 842
 - pH and cinchona, VIII, 1226
 - pH, meaning of term, X, 825
 - phosphate—
 - fixation related to iron availability, V, 481
 - and potassium movement in, X, (921)
 - for sub-tropical, VIII, 828
 - physical properties affect nutrition, VII, 801
 - and plum growth, VIII, 691
 - potash, *see* Potash in soil
 - potassium movement in, X, (921)
 - productivity, soya beans affect, X, 1079
 - profile and root development, II, 126
 - rare elements in, V, 331
 - of Rhodesia, North-Western, VIII, 831

Soil (continued)—

 - and root growth, II, 126; III, 13, 153, 154; IV, 329, 524; V, 346, 539, 540; VI, 248, 426; VII, 838; VIII, 391, 699; IX, 66, 808
 - sampler and mixer of glasshouse, X, 581
 - sandy, rootgrowth in, IV, 524
 - science, bibliography, V, 746
 - selenium in, IX, 26
 - sickness in nursery, I, 122, 332
 - soluble salts in vineyard, IV, 205, 207; VII, 889
 - solution—
 - affected by cover crops, IV, 38
 - changes in, III, 474
 - spray residue accumulations in, VII, 916
 - sterilization, I, 254; III, 518; V, 410; VI, 394, 427; VII, 528; IX, 500, 1266
 - structure, fertilizers affect, VIII, 352
 - and sugar cane, VIII, 848
 - surveys in England, fruit and vegetable, III, 436; IV, 692; VII, 679
 - tea, *see* Tea, soils for
 - temperature—
 - affects citrus germination, III, 367
 - and citrus growth, VI, 837
 - at Geneva, N. York, VI, 248
 - and mulching, II, 4; III, 2
 - at Winnipeg, V, 162
 - tobacco, VIII, 850-852; X, 1087
 - tomato, *see* Tomato soil
 - treatment—
 - against damping off, *see* Damping off
 - and plant growth, IV, 509; VI, 427; VIII, 1335
 - Trinidad, V, 112
 - Vale of Evesham, VII, 679
 - vegetable, *see* Vegetable soil
 - vine, *see* Vine soils
 - waterlogging, *see* Waterlogging
 - Soils and men, U.S. Dep. Agric. Yearb. for 1938, VIII, 1375
 - Soilless growth of plants, manual, *see also* Water cultures, VIII, 1334; X, 767, 1544
 - Soja hispida* as green manure for camphor, VIII, 871
 - Solanum* spp. from the New World, X, 587
 - Solar—
 - propagator, I, 368
 - radiation and coffee growth, X, 1454
 - Solidago*—
 - auxin and leaf development in, VII, 259
 - rubber content, VI, 538
 - as rubber plant, IX, 1426
 - Solute absorption by leaves, VII, 7
 - Solutions, nutrient—
 - control of, V, 184
 - growth of plants in, *see* Water cultures
 - Somaliland, bananas in Italian, III, 577
 - Sooty blotch (*Gloeodes pomigena*)—
 - on citrus, III, 375; V, 99, 450; X, 643
 - on deciduous fruits, VII, 645; VIII, 745
 - Sophronia humerella*, a pest of lavender, VIII, 512
 - Sorbitol—
 - in pears, VIII, 580; X, 328
 - in plums, X, 733
 - Sorghum halepense*, VIII, 829
 - Sour sop, *see* *Annona muricata*
 - South Africa—
 - avocado growing in, II, 57
 - citrus industry in, III, 531; VII, 704
 - Co-op. Citrus Exchange, Director's report, 1938, IX, 1541

SUBJECT INDEX

- South Africa (continued)—**
- date growing in, II, 293
 - Deciduous Fruit Exch. A.R. Overseas Representative 1937/8, VIII, 1369
 - Dep. Agric. A.R. 1931/2 and 1936/7-1938/9, III, 132; VIII, 313; IX, 718; X, 448
 - farming in, VIII, 658
 - fruit—
 - exports from, VIII, 407, 408, 1369; IX, 318, 559, 1067; X, 851, 1269
 - growing in, VIII, 308; IX, 32
 - horticultural research in, III, 132
 - legislation on pests and diseases, VIII, 107
 - weeds of, X, 127
- South America**, rotenone plants in, VIII, 837, 838
- South Australia**—
- the almond in, II, 357
 - apple exports, VIII, 409
 - Minist. Agric. A.R. 1936/7-1938/9, VIII, (1378); IX, 719; X, 787
- Southern Rhodesia**—
- apple diseases, VIII, 101, 1035
 - citrus in, VIII, 803
 - fruit growing in, IX, 32
 - fungi, VIII, 1047
 - plant diseases, X, 651
 - plant introductions into, II, 314
- Tobacco Res. Bd. A.R.** 1937, IX, 720
- Soviet Agronomy**, new Russian periodical, IX, (1515)
- Soya bean**—
- boron in nutrient solution affects calcium accumulation, X, 1080
 - cultivation—
 - in Canada, X, 608
 - in Ceylon, X, 309
 - in Illinois, eleven years' investigations, X, 1078
 - in New Zealand, IX, 172
 - in Philippines, acclimatization, IX, 1051
 - economic importance, X, 166
 - effect on soil, X, 1079
 - nutrient solutions for, X, (1086)
 - photoperiodism in, VIII, 652, 787; IX, (1125) photosynthesis affected by sodium fluosilicate, IX, 1305
 - planting methods, X, 1396
 - potash deficiency in, VIII, 798
 - root tubercles, X, 1081
 - seed—
 - age affects vitality, X, 609
 - inoculation, IX, 653; X, 1081
 - mottling, VI, 804
 - varieties, IX, 925; X, (1086)
- Spain**, orange in, IX, 191
- Spectrographic methods**, VII, 278; IX, 753, (754); X, 895, (921)
- Sphaceloma perseae**, V, 277; X, 1155
- Sphaeropsidales**, IV, 501; IX, 471
- Sphaerotheca**—
- humuli on strawberry, see Strawberry mildew
 - pannosa on rose, VIII, 163, 506; IX, 948
- Sphagnum**, growth promoting properties, IX, 734
- Spice plants**—
- in Germany, VIII, 156
 - seed photographs, IX, 1309
- Spices**, world production, IX, 700
- Spilonota ocellana**, VIII, (1072)
- Spinach**—
- boron deficiency, VIII, 1092
 - in California, VI, 110
 - chlorosis in, IX, 900
 - cultivation, VI, 110; VIII, 120
- Spinach (continued)**—
- damping off, III, 514
 - downy mildew (*Peronospora spinaciae*), X, 149
 - leaf spot (*Colletotrichum spinaciae*), X, 593
 - manganese deficiency, IX, 513
 - temperature affects photoperiodic response, IX, 907
 - varieties, III, 353; VIII, 468
 - viruses, IX, 908; X, 1055
 - vitamin C content, VII, 925
- Spindle-bush**, a cordon training method, VIII, 703
- Spinless cactus** as stock food, X, 1213
- Spiral habit** in trees, III, 140
- Spondias**—
- cytherea or dulcis*, VI, 180
 - purpurea*, II, 291
- Sporotrichum citri**, III, 224; V, 452
- Sports**, *see also particular plants*—
- apple bud, *see* Apple bud mutation
 - banana, IV, 665
 - bibliography of literature on bud, IX, 375
 - blackberry, evergreen, II, 33
 - cassava, X, 248
 - Coffea arabica*, VIII, 559
 - inducement by vegetative propagation, IV, 8
 - lemon bud, *see* Lemon bud selection
 - pear bud, IX, 1153
- Sprays and Spraying**, *see also Fungicides, Insecticides, and under particular pests and diseases*
- Sprays and spraying**—
- aluminium sulphate, VI, 855; VII, 82
 - N,N amyl benzyl cyclohexylamine, control of red spider and thrips, IX, 545
 - affects assimilation, VI, 762
 - aphid, IV, 69-71; IX, 497
 - apple, *see* Apple spray
 - arsenic pentoxide as herbicide, VIII, 461
 - arsenical, I, 421; II, 32, 54, 246-248; III, 209; IV, 78, 229, 390, 569; V, 614, 619; VI, 321, 323, 326, 761; VII, 98, 672, 673; VIII, 454, 762, 763, 767, 768; IX, 125, 126, 216, 496, 883, 885, 891, 1354; X, 571, 573, 1018, 1019
 - arsenical, substitute for, VIII, 454, 768; X, (1378)
 - barium silicofluoride, III, 207
 - effect on bees, *see Bees and spraying*
 - blossoming, to prevent irregular, I, 342; IV, 531
 - bordeaux, *see also under various diseases*, II, 138, 241, 252; III, 58, 190, 192, 196, 197, 199, 200, 329, 330, 334, 491, 493-496, 542, 555; IV, 65, 223, 233, 379, 380, 558, 641; V, 45, 49, 217, 220, 393, 395, 452, 453, 592, 594-596, 600, 604, 605; VI, 75, 152, 301, 303, 306, 482, 484, 553, 749, 752, 762, 796, 851; VII, 68, 94, 337, 342, 347, 642, 646, 647, 649, 662, 667, 669, 899, 947, 982, 1042, 1046, 1047; VIII, 102, 747, 759, 760, 815, 1046, 1156; IX, 101, 473, 489, 491, 494, 520, 525, 581, 893, 1303; X, 113, 207, 301, 574, 641, 655, 980, 983, 986, 1130, 1155, 1364
 - in Bristol province, VII, 663
 - in B. Columbia, VII, 65
 - butyl-carbitol-thiocyanate, IX, 890
 - calcium arsenate, VI, 311, 320
 - calendar—
 - for Morocco, VI, 756
 - for New Zealand, VII, 349
 - in Canada, VII, 652

SUBJECT INDEX

- Sprays and Spraying (*continued*)—
 carbolineum, III, 201, 505; V, 610; VII, 912
 in Ceylon, VIII, 839
 cherry, *see* Cherry spray
 cherry fruit fly, IV, 571
 citrus, *see* Citrus spraying
 codling moth, *see* Codling moth
 colloidal suspensions, VIII, 1067
 commercial fruit tree, IX, 1089
 concentrates, injection of, IX, 889
 contact—
 angle effect, X, (568)
 insecticides, IV, 582
 copper—
 American work, VII, 352
 carbonate, IX, 216, 1354
 for coffee, IX, 626
 and fruit set, IX, 887
 fungicides, IV, 243; IX, 492, 493, (1384)
 harmful effect of, VI, 83
 lime-lead arsenate, IX, 480
 new, VI, 750; X, 569
 -organic, IX, 101
 and transpiration, VI, 796
 cotton-seed oil-bordeaux, VIII, 761; IX, 473, 537, 542
 coverage, VI, 324; VII, 909; VIII, 761, 762
 cresylic acid displaced by tar oil, X, (1378)
 cucumber, IV, 243
 cuprous oxide, VIII, 744; IX, 537
 damage—
 agents causing, VI, 83, 86, 752; VIII, 768
 to apples, *see* Apple, spray effects
 to citrus, *see* Citrus, spray damage
 lime sulphur, *see also* Spray, lime sulphur,
 X, 1016
 to peaches, *see* Peach, spray injury
 to plums, V, 225
 delayed foliation prevented by, I, 342; IV, 531; VI, 467
 in Denmark, X, 1010
 deposit, effect of electrostatic charge on,
 VII, 98
 derris, *see* Derris
 diglycol oleate as spreader, VIII, 763
 dinitro-ortho cresol wash DA, IX, 497, 890
 dinitro-o-cyclohexylphenol in petroleum oil,
 VII, 85; VIII, 467
 dinitrophenol compounds to break dormancy,
 X, 890
 distribution, measurement of, IV, 566
 dodecyl rhodanate as ovicide, IX, 543
 dolphin alkaloid soaps, IX, 214
 dormant, II, 242, 244, 245; III, 201, 339-341, 505; IV, 69, 70, 389, 573; V, 51, 53, 236, 407, 408; VI, 84, 493, 502, 503; VII, 85, 96, 346, 349, 350, 353, 354, 662, 663, 671, 677, 903; VIII, 108, 1069, (1072); IX, 120, 122-124, 494, 497, 888; X, 989, 1008, 1010, 1017, (1374), (1378)
 and dusting fruit trees, III, 200; VIII, 439, 759
 effect on cherry fruits, X, (1020)
 efficiency, factors affecting, X, 1374
 emulsifiers, VII, 676; VIII, 761
 in England in 1936, VII, 346
 ethylene dichloride, IX, 482
 evaluating orchard, IX, (1260)
 in Finland, control proposed for, VIII, 1068
 fluorine compounds in, IV, 73; VI, 325;
 VII, 103; X, 1019
- Sprays and Spraying (*continued*)—
 fruit fall, to prevent, X, 499, 500, 891, 892, 1332
 and fruit set in mango, VIII, 251
 fruit set, to prevent, IV, 333; X, 880, 884
 fungicide, *see also* Fungicide
 fungicide-insecticide, III, 230, 236; IV, 232, 392; V, 224, 270, 595, 614; VI, 82, 503, 505; VII, 350, 667, 668; VIII, 761; IX, 495; X, 567
 garden, VIII, 725
 in Holland, IX, 878
 hydrocarbon oils, VII, 353; VIII, 761
 in Illinois, V, 605; VII, 662
 irrigation, *see* Irrigation, overhead
 kerosene, IV, 398; VI, 351
 for large trees, VII, 351
 lauryl rhodanate, VI, 502
 lead—
 arsenate and similar sprays, IV, 78, 569; VIII, (467), 763, 767; IX, 125, 215, 216
 arsenate substitutes, VIII, (467), (1072)
 compounds in, IV, 78, 569; VII, 98; VIII, 763
 and light obstruction, *see* photosynthesis
 lime and aluminium sulphate, VII, 82
 lime sulphur, *see also under various diseases*,
 II, 138, 252; III, 192, 196, 200, 332, 334, 491, 493-495; IV, 65, 233, 568; V, 45, 49, 218, 220, 225, 452, 453, 594, 596, 600, 605, 614; VI, 73, 306, 317, 318, 749, 762; VII, 94, 337, 340, 342, 347, 646, 650, 666-669, 939; VIII, 95, 102, 446, 455, 759, 764, 767, 768, 1149; IX, 484, 489, 494, 885, 886, (1384); X, 980, 983, 986, 1013, 1016, 1074, 1366
 linseed oil, I, 342; IV, 531; VI, 467
 machinery, IV, 385, 386; V, 50, 52, 606; VI, 85; VII, 95, 348, 665, 666; VIII, 759; IX, 210, 502, 878; X, 1009
 materials, substitute, IX, 498; X, 1375
 methods affect costs, VII, 664
 mineral oil, *see also* dormant, II, 245; V, 54; VI, 326, 507; VIII, 761-764; IX, 120; X, 1015
 naphthalene derivatives, as ovicides, IX, 122
 new chemical preparations, VI, 504; VII, 669, 670, 674
 nicotine—
 on apple, residue determination, IX, 501, (1260)
 for apple sawfly, IX, 494
 and bees, IX, 127
 control of capsids, IX, 487
 improvement of, VI, 763
 as quarantine, IX, 214
 sulphate and bentonite, IX, 496, 498
 supplements, IV, 71
 nitrophenols, toxicity of, as ovicides, IX, 122
 in Nova Scotia, orchard, IX, 1258
 nozzles, IV, 385; V, 52, 606; VII, 95, 665; IX, 502
 Ob 72, a new spray for scab, VII, 340
 oil, *see also* mineral oil, III, 337, 507;
 IV, 109, 261, 531, 567; V, 53, 105, 407, 408; VI, 367, 467, 760, 866; VII, 96, 353, 354; VIII, 467, 724, 759, 813, 830, 1069; IX, 124, 473, 486, 487, 513; X, 554, 989, 999, 1008, 1010
 oleic acid, as spreader, VIII, 763
 ovicidal, *see also* dormant, VII, 353; VIII, 108; IX, 122, 123, 543

SUBJECT INDEX

- Sprays and Spraying (continued)—
 paraffin, IV, 398; VI, 351
 Paris green, IX, 481
 peach, *see* Peach sprays
 petroleum oil, IV, 77, 567; V, 105, 226, 236;
 VI, 351; VII, 354, 671; VIII, 756, 761-764;
 IX, 885
 phenol-containing, III, 506
 phenothiazine, VII, 674
 photosynthesis affected by, IV, 368; IX, 880-
 883; X, 893
 plums, *see* Plum sprays
 poisonous, prevention of accidents with,
 IX, 891
 pome fruit, III, 210
 and powders, sulphur, X, 1013
 preparation and use, VI, 316
 programmes, practical aspects, some, X, 1374
 quassia, VIII, 905-906; VIII, 758, 1070
 residues, I, 269; II, 31, 246-248; III, 209,
 337, 542; IV, 78, 109, 302, 368, 569;
 V, 105, 227, 409, 615-618; VI, 321-326,
 506, 507; VII, 100-104, 364, 672, 673, 916;
 VIII, 466, (467), 759, 761-763, 767, 830;
 IX, 124-126, 216, 501, 884, 885, 1259,
 (1260); X, 573, 1018, (1378)
 seal oil, IV, 531
 selenium, IX, 215
 sodium hypochlorite, VI, 745
 sodium oleate as emulsifier, VIII, 761
 Solbar, X, 570
 spreaders and stickers, III, 35; VIII, 456,
 (467), 761-763; IX, 124
 sulphur—
 corrode prune cans, VII, 241
 fungicide and fruit set in apple, IV, 568
 proteinate of mercury, X, 1014
 wettable with soya bean flour, VIII, 766
 summer—
 in Denmark, X, 566
 oil, VI, 760; VIII, 762; X, 999
 Super killova, V, 51
 superphosphate, IX, 1337
 supplements, VII, 350
 surface tension effect, X, (568)
 synthetic solvents, IV, 387
 tar—
 distillate, II, 244; IV, 69, 70; V, 51, 226;
 VIII, (467), (1072); IX, 494
 oil, for lichen, VII, 677
 oil to prevent fruit set, X, 884
 petroleum oil, V, 236; VIII, (467)
 technique, *see also* machinery, VI, 85; VIII,
 724, 725, 759
 tetramethylthiuram disulphide, IX, 494
 thiocyanates, IX, 122, 497, 543; X, 572
 vine, *see* Vine, sprays
 vitamins affected by, II, 54
 walnuts, IV, 558, 574; VII, 351
 in wartime, X, 1008
 weed, *see* Herbicides
 wetting—
 agents, V, 228; VI, 82; VII, 98; VIII, 456,
 1071
 and spreading properties, X, 567
 white oil emulsion, VIII, 193, 816
 whitewash, VII, 440, 442; X, 1131
 winter—
 affects growth, IX, 888
 washes, *see* Sprays, dormant
 zinc-lime, IX, 494
 zinc sulphate, *see* Zinc sulphate
 Spruce, Norway, growth substances and, X, 5, 10-
 12, 802, 803
 Spur unit method of stimulating pollen quality, I, 22
 Squashes—
 cultivation, VIII, 478
 fruit, preparation of, VI, 606
 Sclerotinia rot of, VI, 341
 Squirrel, the grey, IX, 505
 St. Kitts-Nevis Dep. Agric. A.R. 1938, IX, (1544)
 St. Lucia—
 citrus rootstocks in, X, 1115
 propagation at Union agric. Stat., II, 61
 St. Vincent Dep. Agric. A.R. 1937-1938, IX, 721;
 X, 788
 Stains, cytological, IX, 336
 Staining—
 as germination test, VII, 825
 as hardness test, VII, 873
 Staking of orchard trees, VIII, 702; X, 864
 Staple crops, West Indian, IX, 1008
 Star apple (*Chrysophyllum cainito*)—
 soil medium for seedling, X, 1204
 vegetative propagation, VII, 464; X, 707
 Starch—
 in apples, II, 231; III, 458
 cassava source of, VIII, 579
 determination, VI, 636
 edible canna and potato, II, 172
 plant of the desert, jau-jumur, X, 224
 Station fédérale d'essais viticoles à Lausanne-et-
 Domaine de Pully A.R. 1930 and 1936-
 1937, II, 100; VIII, 1356; IX, 709
 Statistical—
 analysis, II, 101; III, 142, 275; IV, 507;
 VIII, 841; X, (850)
 method in field trials, IV, 4, 5; IX, 22; X, 451,
 452
 tables for biological, agricultural and medical
 research, manual, VIII, 1339
 Statistics—
 agricultural, Malayan, VI, 1001; VIII,
 (1378); X, (450)
 fruit growing, VIII, 17, (1378)
 fruit, methods of preparing, X, 412
 for 1931, international yearbook of agricultural,
 III, 432
 vegetable, methods of preparing, X, 412'
 Stem-builder, *see* Apple and Pear, double working
 Stem—
 cell walls and 3-indole acetic acid, VIII, 625
 growth under wick culture, VIII, 646
 transmutation into root, VII, 572
 Stemonaceae, insecticidal properties, VIII, 555
Stereum purpureum, *see* Silver leaf
 Sterility—
 in apple, IV, 20, 341; VIII, 379
 in cherry, VII, 564
 and fertility in plums, III, 23
 in pear, *see* Pear sterility
 Sterilization—
 of fruit cases, steam, IX, 319
 of lettuce seed, IX, 519
Stethorus punctillum, IV, 581
Stictocephala inermis, IV, 225
 Stills for essential oil production, III, 267
Stilpnotia salicis, a parasite of, VIII, (1072)
Stizolobium as green manure for camphor, VIII, 871
 Stock, *see* Rootstocks
 Stock (*Matthiola incana*)—
 diseases, IX, (960); X, 175
 heteroauxin effect on, VIII, 622
 light and temperature effect on, VI, 816

SUBJECT INDEX

- Stock-scion—**
 incompatibility in peach on plum, VIII, 679
 influence and ring grafting, V, 365; VI, 259;
VII, 832
 relations—
 in citrus, *see* Citrus stock-scion
 in deciduous fruit trees, I, 29, 61, 63, 64,
 230, 336; II, 117; III, 11; IV, 170; VI, 440,
 441, 661; VII, 554, 1120; VIII, 30, 31
 in quince, III, 11
 in rubber, *see* Rubber stock-scion
- Stock and scion terminology**, VIII, 978
- Stomata—**
 on apple leaves, I, 237
 on citrus leaves, I, 370; VI, 841
 Lloyd's fixation methods, VI, 841
 measuring, IX, (754)
 spots on banana fruits, IV, 130
- Stomatal—**
 behaviour—
 and nutrition, VII, 813
 and photoperiodism, VIII, 516
 movement, IX, (399)
 movements in *Coffea arabica*, VII, 1020
- Stone cells in pears**, I, 339; VI, 28; X, 757
- Stone fruit—**
 bacterial canker (*Pseudomonas* and *Phytophthora* spp.), IV, 219, 557; V, 216; VI, 480;
 VII, 333-335, 642; VIII, 741, 742, 1044;
 IX, 494, 860, 1222, 1223; X, 977
 breeding, VII, 547; VIII, 24, 667
 bud mutations in, VII, 547
 for canning in U.S.S.R., VIII, 668
Clasterosporium carpophilum damage, X, 544
 dieback in, III, 327
 embryo development, *see* Embryo development
 fertility relations in, II, 23, 220, 221; III, 298
 germination in, VII, 20; IX, 41
 gummosis, *see also* Gum, III, 40; V, 186
 leptonecrosis in, VII, 66
 market diseases, VII, 1073
 nematodes of, X, 122
 pollination, I, 23; II, 23, 220, 221; III, 298;
 IV, 41, 184; VIII, 375
 rootstocks, II, 115; VII, 1120; VIII, 29,
 372, 373; X, 122
 seed storage, IX, 42
 shot hole diseases, VIII, 747; X, 543
 water table effects on, IV, 525; VI, 470
- Stony pit in pear**, IX, 1220
- Storage—**
 acetaldehyde in, I, 199
 air cooled, construction of, II, 301
 ammonium bicarbonate, effect on orange,
IV, 481
Annona squamosa, VIII, 278
 apple, *see* Apple storage
 asparagus, *see* Asparagus storage
 Australian foodstuffs, II, 89
 avocado, *see* Avocado storage
 banana, *see* Banana storage
 bean, *see* Bean storage
 beetroot, VIII, 588
 broccoli, *see* Broccoli storage
 cabbage, *see* Cabbage storage
 cacao, *see* Cacao storage
 Capetown precooling store, X, 382
 CO₂, *see also* gas
 CO₂—
 measurement in, VIII, 1270
 removal by use of lime, X, 1515
- Storage (continued)—**
 carbon losses during, X, 733
 carnation, X, 179
 carrot, *see* Carrot storage
 catalase activity in, VIII, 1273, 1276
 cauliflower, X, 1520
 cherry, VII, 497; VIII, 589; IX, 315
 changes occurring during, III, 418; IX, 1450,
 1451
 cherry, III, 125; IX, 657; X, 1228
 chico, V, 149; X, 1238
 citrus, *see* Citrus storage
 coconut, II, 204; VIII, 899
 coffee seed, X, 263
 conditioning of fruit after, VII, 1053; VIII,
 1278, 1280
 and cooking quality, IX, 323
 cooling of fruit before, *see* precooling
 Covent Garden laboratory, X, (383)
 cranberry, IV, 673; VII, 1071, 1072
 cucumber, V, 422; IX, 305; X, 740
 date, IX, 655, 1520; X, 737
 deciduous fruit, precooling tests, V, 493
 delayed, of pears, X, 327
 delphinium seed, II, 361; III, 522; VI, 812
 D.S.I.R. Lond., work on, VI, 989
 diseases, V, 303; VI, 205, 957
 dried fruit, VIII, 889
 engineering problems of, VII, 1051; VIII,
 1255
 ethylene in relation to, *see* Ethylene
 fan, a reversible, X, (383)
 farm, cold, X, 1511
 flower, III, 592; VI, 963; VIII, 888; X, 1524
 foodstuffs, VII, 483
 foodstuffs in the British Colonies, X, 1235
 freezing—
 of apples in, IV, 291
 temperature of fruits, vegetables and
 flowers, VIII, 888
 French marigold, VI, 963
 frozen pack methods, I, 310; II, 303; III,
 419, 609; IV, 136, 137; VII, 495; VIII,
 1306-1309; IX, 661; X, 371, 372, 1229,
 1512
 fruit—
 emanations check growth, *see* Emanations
 in Sweden, III, 124
 and vegetables, physiological principles of
 cold, X, 1215
 fungi—
 on citrus in, VIII, 587, 895
 in tropical fruit, VII, 1084
 gas, I, 100, 103, 199, 302, 304-306, 407;
 II, 202, 414; III, 123, 414, 594, 595; IV,
 288, 293, 312, 395; V, 497, 498; VI, 203,
 208, 595, 600, 601, 935, 937, 938, 940, 941,
 950, 953, 954, 957; VII, 485, 487, 770, 1049,
 1055, 1082; VIII, 271-273, 282, 581-583,
 884, 890-894, 1258, 1271, 1286-1291, 1310;
 IX, 302, 306, 456, 657, 1054, 1270, 1450,
 1454; X, 323, 332, 339, 375, 1221, 1222,
 1224, 1228, 1230, 1514, 1515
 garden produce, home, X, (1588)
 gooseberries, VIII, 581
 grape, *see* Vine, grape storage
 grapefruit, *see* Grapefruit storage
 guava, VII, 462, 1082
 horticultural produce, III, 593
 household, IX, 1448
 impregnation of fruit skins with wax in,
see wax

SUBJECT INDEX

Storage (*continued*)—

- individual variation in apples from same tree, **VIII**, 1268
- insects, *see* pests and particular insects
- lanzon, **VII**, 494
- lemon, *see* Lemon storage
- lime, **III**, 601; **VI**, 219
- litchi, **X**, 1238
- at Low Temp. Res. Stat. Capetown, **VIII**, 1256
- maleic acid used in, **VI**, 202, 405; **VIII**, 1258; **IX**, 1453
- mango, *see* Mango storage
- melon, **VII**, 495; **IX**, 310, 1465; **X**, 344, 374, 1517
- metabolism in, **VI**, 202, 405
- methods, new, **V**, 739; **VI**, 202; **IX**, 661
- moulds and organic acids, **VII**, 1076
- narcissus, *see* Narcissus bulb treatment
- nectarine, **X**, 343
- in New Zealand, **VIII**, 1362
- oil dip as aid to, *see* wax
- oil wrappers, use in, *see* wrapper
- olive, **IV**, 674
- onion, *see* Onion storage
- orange, *see* Orange storage
- orchard, **X**, 726
- organs affected by light and potassium, **II**, 317; **III**, 1
- oxidase activity, **VIII**, 1273, 1276
- ozone used in cold, **IV**, 140; **VI**, 953; **IX**, 456
- papaw, **II**, 205
- paraffin treatment of fruit in, **IV**, 484; **IX**, 1479
- pea, **VII**, 498, 1087; **VIII**, 892
- peach, *see* Peach storage
- pear, *see* Pear storage
- peat dust as medium, **IX**, 305
- pectin changes during, **VIII**, 893
- pests, **VII**, 1074; **VIII**, 899; **IX**, 308; **X**, 317, 741, 1218
- pineapple, **I**, 311; **X**, 1508
- plum, *see* Plum storage
- plum seed, **II**, 108
- pollen, *see* Pollen storage
- potato, *see* Potato storage
- precooling fruit before, **V**, 493; **VIII**, 312; **IX**, 303; **X**, 315, 1227
- processes, new, **V**, 739; **VI**, 202; **IX**, 661
- quality affected by—
 - CO_2 and fungicides in cherry, **IX**, 657
 - cultural practice, **II**, 231; **IX**, 436
 - humidity of store, **VI**, 936
 - injection, **VII**, 611
 - manuring, **II**, 238, 234; **IV**, 342, 343; **VII**, 722; **VIII**, 45, 1266; **X**, 70
 - maturity of fruit, **IX**, 654, 655
 - origin, **VIII**, 1274
 - rootstock, **I**, (109); **V**, 172; **VIII**, 1265; **X**, 70
 - size of fruit, **VI**, 206
 - soil water, **VIII**, 693, 694
 - washing, **VII**, 915
- raspberry, *see* Raspberry storage
- rots, Zbarsky's bactericide for, **VIII**, 1262; **X**, 316
- rubber seed, **II**, 289
- sampling technique, **VIII**, 1263
- seed, *see* Seed storage
- snow used for, **VII**, 1085
- in South Africa, **VIII**, 1256; **X**, 382

Storage (*continued*)—

- spotting caused by presence of other apples, **VIII**, 1272
- stacked boxes, resistance to air flow in, **X**, (383)
- strawberry, *see* Strawberry storage
- sulphur dioxide in, **IV**, 294; **V**, 513; **X**, 347
- Swedish fruit, **II**, 90
- sweet potato, *see* Potato, sweet, storage
- tea, black, **VIII**, 915
- technique *see also* methods, new, **VIII**, 270
- temperature, **III**, 413; **V**, 733; **X**, (383)
- temperature, cold injury, **VII**, 1052
- thermometers, **X**, (383)
- tomato, *see* Tomato storage
- tree and shrub, **III**, 3
- tropical fruit, *see* Tropical fruits, storage
- tulip bulb, **VIII**, 517
- ultra-violet ray effect, **VIII**, 275; **IX**, 304
- variability in results, **VIII**, 1263
- vegetable, *see* Vegetable storage
- vegetable seed, **V**, 636; **IX**, 1261; **X**, 1035
- ventilated, **IV**, 670; **VI**, 204; **VII**, 1050
- and vitamins, *see* Vitamins affected by storage
- volatile products liberated during, *see* Emanations from fruit
- walnut kernel, **VII**, 1059; **X**, 449
- warehouse fumigation, **VII**, 1075
- wastage estimates, **V**, 738
- water, **VIII**, 550
- wax for preserving fruit and vegetables in, **IV**, 135; **VI**, 955; **VIII**, 1261; **IX**, 456, 1479, 1480; **X**, 1219, 1220, 1231, 1516, 1523
- wrappers for use in, **III**, 596; **IV**, 290, 480, 677; **V**, 147, 422; **VI**, 407, 956; **VII**, 1061, 1062; **VIII**, 281, 1259, 1260; **IX**, 456, 1055, 1463, 1481, 1482; **X**, 318, 362-364, 1223, 1234
- Zbarsky's bactericide used in, **VIII**, 1262; **X**, 316
- Stores, planning of fruit, **VIII**, 1310
- S.S. and F.M.S. Dep. Agric.—
 - Field Branch A.R. 1937, **VIII**, 1370
 - Res. Econ. Educ. Branches A.R. 1932 and 1935, **III**, 615; **VI**, 1002
- Straits Settlements Dir. Gdns A.R. 1938, **IX**, (1544)
- Stratiotes aloides*, growth substances, **VIII**, 939
- Straw mulch, effect on potassium, **IX**, 435
- Strawberry—
 - aphids (*Capitophorus*, *Pentatrichopus* spp. and others), **V**, 214, 215, 235; **VI**, 478; **VII**, 635, 637; **VIII**, 752; **IX**, 107, 445, 872; **X**, 124, 992
 - beetles, **X**, 558
 - Belle de Chatelaine, **X**, 514
 - blossom—
 - blight, **VII**, 86
 - weevil (*Anthonomus rubi*), **VII**, 655
 - boron deficiency, **IV**, 363; **VIII**, 654
 - breeding, **IV**, 50; **V**, 9; **VIII**, 58, 59, 412, 714; **IX**, 40, 825
 - bud differentiation, **III**, 315
 - Clivina rugithorax* on, **X**, 557
 - clone performance, **VIII**, 417, 418
 - composition, **II**, 351; **X**, 754
 - crinkle disease, **IV**, 217, 373; **VIII**, 740; **IX**, 861; **X**, 123, 974
 - crown borer (*Tyloderma fragariae*), **VIII**, (1072)
 - cultural operations, **I**, 164; **IV**, 361; **VI**, 46; **VIII**, 417, 418, 1000; **IX**, 445; **X**, 929, 930
 - cyclamen mite on, **VI**, 490

SUBJECT INDEX

- Strawberry (*continued*)—
 daylight, effect of varying, on, *see* light effect
 " degeneration," IV, 149
 disease—
 resembling crimp, VI, 488
 resembling crinkle, IV, 373
 diseases, VIII, 1000; IX, 443-445, 469; X, 975
 dormancy breaking, VIII, 420
 dwarf, IV, 68; VIII, 1064
 East Malling work on, IX, 445
 economics of production, III, 312; IX, 827
 eelworm, IV, 68; VIII, 749, 1064; IX, 456
 environment and, IV, 545
 the everbearing, I, 12; V, 203; IX, 443;
 X, 79
 experimental lay out, VIII, 418, 999, 1000
 failure, III, 313, 316, 502; IV, 149; IX, 444
 field cricket pest (*Gryllus assimilis*), VIII, (467)
 firmness, weight and respiration, III, 314
 flowering dates, V, 179
 forcing, V, 566; VII, 306; IX, 408
 frost injury, V, 382
 frozen pack preservation of, III, 419; IV,
 136; X, 371, 1229
 fruit—
 bud formation, VI, 704
 composition affected by fertilizers, VI, 713
 grading and marking, IV, 202
 grafting, II, 148
 growing—
 in Bristol province, England, III, 312
 in Canada, IX, 443
 in England, IV, 149; VI, 46; VIII, 416,
 1000; IX, 445
 in Holland, IX, 824
 in Illinois, VII, 42
 in Isle of Ely, diseases, X, 975
 manual, VII, 520
 in Oregon, pests and diseases, IX, 469
 at Plougastel, Finistère, IX, 822
 in Portugal, X, 928
 problems, IV, 149
 in Queensland, IX, 1190
 in Scotland, IV, 361; IX, 823; X, 513
 in sub-tropics, V, 33
 in tropics, VIII, 419
 growth in, I, 9-12, 358; V, 375
 hard rot in, II, 250
 hardness in, X, 515
 hot water treatment, III, 203; IV, 68, 149;
 IX, 456; X, 976
 hybrids at Meev, VIII, 412
 inbreeding experiments, IX, 40
 irrigation, IV, 545; VI, 713
 juice, VIII, 904; X, 1249
 Lanarkshire disease, *see* red core
 leaf—
 area affected by spacing, VII, 860
 area:berry production, VI, 715; VII, 859
 roller (*Ancylis spp.*), VIII, 449, 1063; X,
 562
 spot (*Mycosphaerella fragariae*), X, 113
 light effect on, IV, 545; V, 32; VII, 306, 858,
 861
 manuring, I, 51, 165; II, 351; III, 316, 317;
 IV, 362-364, 545; VI, 713, 714; VII, 862;
 VIII, 999, 1000; IX, 443, 447, 829; X, 439,
 1343
 maturity dates, VIII, 708
 mealybug (*Pseudococcus spp.*), X, 123
 metabolism, VI, 713
- Strawberry (*continued*)—
 mildew (*Sphaerotheca humuli*), VII, 650;
 IX, 494, 855, 861
 mites, III, 203; IV, 149, 227; V, 214; VI, 490;
 VII, 656; VIII, 1065; IX, 445, 872
 moisture content, VI, 713
 mulching, IX, 447; X, 929
 mycorrhiza of, VII, 846
 nutrition, *see* manuring
 nematode, *see* eelworm
 North Star, IX, 826
 Oberschlesien, III, 313; VII, 43
 packing, I, 418; VI, 965; VIII, 1002;
 IX, 1059
 pests, II, 257; III, 203; IV, 68, 149, 227;
 VI, 308; VIII, 449, 1000; IX, 445, 469, 868
 photoperiodism and growth, *see* light effect on
Phytophthora disease of, VI, 77; X, 987, 1365
 picking, VI, 706; VIII, 1002
 pollination, III, 313; VII, 43, 86
 propagation, IX, 445
 red core disease, VI, 77; X, 987, 1365
 red stele, *see* red core
 refrigeration, *see also* frozen pack, VI, 706
 respiration of fruits, I, 8, 259;
 ripening, V, 375
 ripening, methods of retarding, X, 1342
 root—
 aphid (*Aphis forbesi*), IX, 107
 growth, I, 10
 rot, III, 502; IV, 149, 222, 383, 384, 565;
 VI, 300
 weevils, VI, 308; VIII, 449
 Royal Sovereign, VIII, 417
 runner and fruit production, V, 203
 scorch (*Diplocarpon earlianum*), X, 113
 sodium salts, injury by, IV, 363
 soil—
 moisture and, VI, 425
 pH and, IX, 828
 spacing, V, 204; VII, 860; IX, 446, 447;
 X, 439
 sprays, IX, 495
 storage, V, 498, 501; VI, 706, 946; VII, 234,
 1034; VIII, 894, 1282; X, 371, 1229, 1230
 Tardive de Leopold, III, 313; VII, 43
 tarsonemus, *see* mites
 temperature affects, VII, 861
 thrips (*Frankliniella tritici*), VII, 86
 transplanting, X, 78, 439
 transportation, VII, 234; IX, 1059
 varieties, III, 48, 49, 313; VII, 43; VIII, 417,
 1000; IX, 73, 74, 826, 1189; X, 514, 930,
 1229
 virus in, II, 148; III, 188; IV, 149, 217, 373;
 V, 214, 215; VI, 478; VII, 635-638;
 IX, 444, 445, 861; X, 123, 973-975
 weevil (*Anthonomus signatus*), VIII, (467)
 Wisley trials of, III, 48; X, 930
 yellow edge, *see also* virus, II, 148; III, 188;
 IV, 149; V, 214; VI, 478; VII, 635-638;
 VIII, 752; IX, 861; X, 973-975
Strechcia plusiaeformis, a gooseberry pest, VIII,
 (467)
 Stub removal at budding, I, 34; IV, 166, 323
 Stumps, tree, removal of, I, 255; VII, 14, 39
Sturmia inconspicua, gipsy moth parasite, III, 44
 Styria, fruit growing in, IX, 30
 Subsoil moisture, orchard, VI, 689
 Sub-tropical—
 fruit—
 biochemical study, VIII, 197

SUBJECT INDEX

- Sub-tropical, fruit (*continued*)—
 in confectionery, **IX**, 326
 plant species, **VIII**, 1228; **IX**, 588
 plants, breeding of, **VIII**, 169
 plants, vegetative propagation, **VI**, 616
 plantation crops, vegetative propagation, **X**, 772
 plants—
 of British Empire, **VI**, 239
 growth substances for rooting, **VIII**, 931, 932; **X**, 1137
 in Kazakh, S.S.R., **X**, 1138
 pests of, **X**, 1263
 and spray residues, **VIII**, 830
 soils and phosphates, **VIII**, 828
 weeds, **VIII**, 829
- Sub-tropics, deciduous fruit growing in, **VI**, 921
- Sucrose, hydrolysis, **VII**, 1070
- Suction pressure in fruit trees, **III**, 18, 459
- Sudan, crop plants of, **VI**, 239
- Sudan Dep. Agric.—
 A.R. 1937, part II, **IX**, 726
 Res. Scheme A.R. 1936, **VIII**, (1378)
- Sugar—
 apple, *see Annona squamosa*
 and auxin for growth, **VIII**, 616
 beet—
 acidity and manganese deficiency, **IX**, 898
 boron and growth and quality of, **IX**, 898
 breeding, **VIII**, 469
 copper deficiency, **VII**, 371
 copper fertilizers for, **X**, 1045
 curly top disease, **IX**, 468
 for feeding stufts, **X**, (1588)
 heart rot, **X**, 838, (1086)
 pests and diseases, **IX**, 898; **X**, 1046
 strains, **X**, 1044
 for sugar, **X**, (1588)
 yield, determination of loss in, due to gaps, **III**, 143
- cane—
 climatic optima, **X**, 1436
 drought-resistant varieties, **VIII**, 845
 emasculation, **VII**, 1010
 expérimental lay out, **VI**, 894
 frog hopper, **VIII**, 1198; **X**, 1168
 industry in the Antilles, **X**, 1167
 investigations in Trinidad, A.R. 1937-1939, **VIII**, (1378); **IX**, (726); **X**, (450)
 magnesium affects toxically, **I**, 276
 manuring, **I**, 275; **X**, 1435
 pests, **IX**, 241
 pollination, **I**, 277
 residue, paper from, **X**, 1536
 root—
 rot due to *Pythium*, **VIII**, 848
 system, **V**, 689; **VI**, 893; **VII**, 740; **VIII**, 845, 846
 soil hygrometer for irrigated, **V**, 282
 storage pests, **VIII**, 899
 in Tucuman, **VIII**, 847
 variety trials, **III**, 231
 weighing in field, **VII**, 994, 995
 determination in plant tissues, **X**, 31
 effect on colour of fruit, **V**, 366
 maple sap, **VI**, 228
 from nipa palm, **IX**, 335
 prunes, **II**, 18; **V**, 546
 world production, **IX**, 700
- Suhuan mandarin, **IX**, 193
- Sukhum introduction nursery, **IX**, 980
- Sulphamates for weed control, **X**, 1007
- Sulphate of ammonia—
 leaching of, **VIII**, 210
 soil reaction and root growth, **VIII**, 699
- Sulphates and raspberries in B. Columbia, **VIII**, 415
- Sulphite lye as emulsifier, **VII**, 676; **VIII**, 761
- Sulphur—
 acaricide, a new, **IX**, 121
 burning, injury to glasshouse crops, **III**, 177; **IV**, 422
 content of plants, **VI**, 637
 deficiency—
 in peach, **VII**, 879
 in prune, **III**, 456
 in strawberry nutrition, **IV**, 362
 in tea manuring, **I**, 90; **III**, 235; **IX**, 845
 in tomato manuring, **III**, 69
- dioxide—
 injury, **IX**, 1206
 for preservation of fruit, **V**, 513
 for preservation of grapes, **IV**, 294; **X**, 347
 on vegetation, effect of, **X**, 1266
- dust—
 and apple scab, **VI**, 73; **X**, 984
 and *Botrytis* on grapes, **IX**, 474
 against citrus pests, **IV**, 441
- as fertilizer, **VIII**, 1079; **IX**, 1139
- fruit set affected by, **IV**, 568
- injury, **III**, 177; **IV**, 422
- and iron availability in pineapple, **IV**, 477
- in plant nutrition, rôle of, **IX**, 1139
- and soil acidity, **X**, 903
- as spray spreader, **VIII**, 762
- sprays corrode prune cans, **VII**, 241
- and tea manuring, **I**, 90; **III**, 235
- and tomato growth, **III**, 69
- traces in canned fruit, **X**, 1527
- Sulphuric acid as weed killer, **II**, 144; **VI**, 352
- Sulphuring—
 of apricots, **III**, 130
 decreases oidium in vines, **VII**, 651
 wine and fruit juice, **X**, 1244
- Sultana—
 cultural operations, **VII**, 593
 in Cyprus, **II**, 354
 dipping, vine ash substitute for potash in, **X**, 1532
 drying, **VI**, 415; **VII**, 502
 fruit bud, **II**, 152; **IV**, 204; **VII**, 596; **VIII**, 63; **IX**, 84, 85
 hail damage, **VII**, 632
 along Orange River, S. Africa, **V**, 592; **IX**, 1196
 pruning, **V**, 573; **VII**, 593
 roots, **II**, 268
 sulphuring, **VII**, 651
- Sultanina—
 chlorophyll in grapes of, **VIII**, 64
 a parthenocarpic, **V**, 206
 vitamin in, **II**, 267
- Sumatra—
 cloves in, **III**, 406
 coffee in West, **VIII**, 842
 oil palm in, **III**, 246; **IV**, 281, 282; **VIII**, 842
 quinine in West, **VIII**, 842
 report on visit to, **IX**, 1090
 rubber in, **VI**, 175; **VIII**, 842
 tea in West, **VIII**, 842
- Summerland Dominion exp. Stat. Rep. 1930 and 1932/6, **I**, 428; **VIII**, 314
- Sun scald, a winter injury, **I**, 155; **VII**, 875

SUBJECT INDEX

- Sunflower—**
 absorption lag in, VIII, 641
 chemistry of, X, 1102, (1105)
 as indicator of boron deficiency, X, 1354
 as oil plant, VIII, 155
 photoperiodicity and growth hormones in, IX, 7, 13
- Sunn hemp—**
(Crotalaria juncea), composting, VIII, 548
 cultivation in Jaffna Peninsula, VI, 158
 as fibre plant, V, 141; VIII, 157, 546
Fusarium in, VII, 1008
 as green manure, VIII, 211, 546, 548
 root system, VI, 566
 uses of, V, 141
- Superphosphate—**
 as fertilizer, III, 63; VII, 310, 406; IX, 531
 sprays for reducing acidity in oranges, IX, 1337
- Support of fruit trees, see also Staking**, III, 476
- Surgery, tree, see Wounds, tree, treatment of**
- Suriname, nuts of**, VI, 923
- Sverdlov U.S.S.R., orchard pests and diseases**, IX, 103
- Sweda plum stock**, X, 486
- Sweden—**
 brown heart of, VII, 681; VIII, 654; IX, 511
 cultivation, X, 141
 manganese deficiency, IX, 513
 mottle disease, IX, 511
 seed production, X, 585
- Sweden—**
 agricultural pests in, IX, 478
 fruit storage in, II, 90
 vegetable experiment station at Alnarp, IX, 508; X, 1552
- Swedish Acad. Agric.**, A.R. roy. 1939, X, 786
- Sweet peas**, I, 3; VI, 533, 814; VII, 408
- Sweet potato, see Potato, sweet**
- Switzerland—**
 apple varieties in, VIII, 359; IX, 39
 cherries grown in, III, 146; IX, 39
 pear varieties in, IX, 39
 pest and disease control in, IV, 63
 plums grown in, V, 531; IX, 39
 rootstock trials for apples, VIII, 972
 walnuts in, IX, 39
- Sympylid, the greenhouse (*Scutigerella immaculata*)**, III, 364; V, 413; IX, 105
- Synanthedon exitiosa** on peach, X, 1370
- Syrian desert flora**, X, (226)
- Syringa vulgaris, see Lilac**
- Syrup, preparation of fruit, see Fruit syrups**
- Tables, statistical**, VIII, 1339
- Tachycineta asynamorus**, VII, 397; IX, (928)
- Tachypterus quadrigibbus** of apple, VII, 79
- Tafo Cocoa Res. Stat. 1st A.R. 1937/8**, IX, 699
- Tamarind (*Leucaena glauca*)**, VIII, 876; IX, 228; X, 1456
- Tamarisk as windbreak**, VIII, 185
- Tanganyika—**
arabica coffee in, III, 237, 238
 Dep. Agric. A.R. 1935, 1937-1938, VI, 1004; VIII, (1378); IX, 726; X, (450)
 gen. Exp. Farms Rep. 1937, VIII, (1378)
 vinegrowing chances, IV, 208
- Tannase preparation**, VIII, 605
- Tannia (*Colocasia* spp.)**, X, 249
- Tannins—**
 in cacao bean, VII, 1033; VIII, 1220
 in tea-leaves, VIII, 226, 605
- Taou-saghyz, a rubber plant**, VI, 583; IX, 278
- Tapioca, see Cassava**
- Taphrina deformans** on peach, IV, 221; VI, 75
- Tapinoma simrothi**, X, 564
- Taproots, coffee, effect of bent**, IX, 252
- Tar derivatives, see Sprays, tar**
- Tarakto *genus kurzii*, an antilepric species**, IX, 631, 632
- Taraxacum kok-saghyz**, IX, 278, 996, (1427)
- Taro (*Colocasia antiquorum* and *esculenta*)**, VII, 453, 741; VIII, 849, 860; X, 249, 250, 721
- Tarsomonus—**
fragariae, III, 203; IV, 149, 227; V, 214; VII, 656; VIII, 1065
latus and *pallidus*, IV, 67; VI, 490; IX, 445, 872, 947
- Tasmania—**
 apple investigations, V, 44, 494, 551
 bacterial plant diseases in, III, 38
- Tea—**
 anatomy of leaf and stem, X, 684
Armillaria mellea disease of, X, 1176
 aroma preservation, VIII, 1201
assamica, IV, 630
 Association, Indian, sci. Dep. A.R. 1935-1938, VI, 992; VIII, 310; IX, 703; X, 435
 bitten off disease, X, 1447
Boga medeola as green crop for, X, 435
 botanical name, X, 252
 budding, IX, 1391
 canker, gnarled stem (*Helopeltis bergrothi*), III, 236; IV, 116
 carbohydrates after pruning, VII, 188
 chromosomes of, VIII, 224, (1203)
 climatic and soil needs, III, 545; X, 683
 clones, yield of, III, 389
 comparison of Ceylon and Indian cultural methods, VI, 897
 composition of made, V, 283
 compost manures, value for, X, 1444
 cover crops for, II, 384; X, 435
 cultivation, *see* planting
 cultural operations, *see also* planting, I, 281; II, 66; VII, 745; VIII, 227
 cuttings, *see* propagation by cuttings
 cyanide affects plant and pests, IX, 1393
 defoliation, II, 67
 diseases, VI, 904; VII, 1017; VIII, 854
 drought—
 conditions affecting, V, 462; VI, 900
 and pruning, VI, 900
 extract, colorimetric test, VIII, 604
 fermentation process, IX, (668); X, (765)
 flower bud differentiation, VIII, 225, (1203)
 fumigation (HCN), VIII, 1202
 green, composition of, IX, 667
 green manuring, I, 383; II, 384; IV, 271; IX, 247; X, 435, 685
 growth after pruning, VII, 188
 growth substances, IX, 1014; X, 254, 1280
 improvement of old, X, 253
 inflorescence and flower, VIII, 225
 iodine content, VII, 189
 layering, III, 234, 548; IV, 124, 635
 leaf—
 caffein in, VIII, 226
 and micro-organisms, VIII, 605
 observations on, I, 89; II, 174; VIII, 226
 oxidase of, VIII, 605
 tannins from, VIII, 226, 605
 manufacture, III, 100; IX, (668)

SUBJECT INDEX

- Tea (continued)—**
- manuring, I, 90, 180, 383; II, 383, 384; IV, 115, 271; V, 283, 284; VII, 187, 744; VIII, 854; IX, 247, 1019; X, 255, 256, 435, 440, 685, 1444, 1445, 1567, 1571
 - marketing, IV, 306
 - moth, *Trichogramma* control of, X, 1177
 - mother tree selection, VIII, 855
 - mulch paper for, II, 68
 - nematode (*Anguillulina pratensis*), X, 687
 - nitrogen supply for, IX, 1019
 - nutritional demands of, VII, 187
 - packing, VIII, 1201
 - pests, VIII, 854, 899; IX, 1393
 - phloem necrosis, X, 686
 - phosphate for, VIII, 828
 - photoperiodism and, VI, 898
 - photosynthesis, VIII, 806
 - planting—
 - in Africa, VII, 185
 - in Assam, VII, 742; X, (1589)
 - in Azerbaijan, VIII, 1200; X, 683, 1173
 - in Belgian Congo, IX, 246
 - on Black Sea Coast, IX, 1016
 - in Ceylon, *see also* Tea Res. Inst. Ceylon, VIII, 223
 - in Georgia, U.S.S.R., II, 281; VIII, 557, 828
 - in India, VIII, 223, 1354
 - in Indo-China, IV, 631
 - in Japan, VIII, 223
 - in Kenya, X, 257
 - in Krasnodar, U.S.S.R., X, 1174
 - in Malaya, III, 233; VIII, 556; IX, 245
 - manuals on, I, 423; IV, 306; VI, 981
 - in North East India and Toklai, VI, 897
 - in Nyasaland, IV, 695
 - research, review of, VIII, 854
 - in South China, II, 380
 - in Sumatra, VIII, 842
 - in Tanganyika, V, 461
 - plucking, I, 387; VI, 567, 901, 902; VII, 190, 745; IX, 1017, 1018
 - pot experiments with, II, 383
 - propagation—
 - by budding, IX, 1391
 - by cuttings, I, 386; III, 102, 234; IV, 636; V, 123; VII, 186; IX, 618, 1014; X, 254, 1280
 - by etiolated shoots, III, 234, 548; IV, 124, 635
 - by seed, II, 65, 282; III, 101; X, 1442
 - by wiring method, III, 102
 - pruning, I, 282, 283; II, 69; III, 103, 390; IV, 269; V, 284; VI, 160, 900; VII, 188, 745; IX, 620
 - Pulvinaria floccifera*, control on, IX, 1393
 - Pyrausta nubilalis*, a pest of, IX, 219
 - research—
 - conference, St. Coombs, Ceylon, March, 1940, X, 1441
 - in India, *see* Tea Association, Indian Research Institute of Ceylon—
 - A.R. 1936-1937, and 1939, VIII, 315, (1378); X, 1567
 - index of publications, X, 1566
 - work of, III, 232; IV, 629
 - resting the bush, III, 549
 - restriction, III, 99
 - root—
 - diseases, X, 1175, 1176
 - growth, I, 88; III, 104; IV, 636; VI, 899

Tea (continued)—

- rye as a green manure for, IX, 247
- seed, II, 65; 282; III, 101; VII, 743; X, 1173
- seed production, VIII, 1199; X, 253, 1442
- selection, I, 278; III, 388; IV, 632-634; VI, 159; VIII, 222, 223, 855; IX, 1016; X, 257, 682
- shading, I, 279; X, 255, 1443
- soil for, II, 381; III, 545; IV, 270
- soil—
 - erosion, IV, 270; X, 1446
 - moisture and, II, 381
- spacing, IX, 1015
- stem canker (*Helopeltis bergrathi*), III, 236; IV, 116
- storage of black, VIII, 915
- stumps, III, 547
- sulphur deficiency, I, 90; III, 235
- tasters' terms, IV, 683; VI, 903
- termite (*Microtermes pallidus*) and, VI, 905
- thinning out of, II, 382; IX, 1015
- Toklai investigations, *see* Tea Association, Indian
- tree oil, IX, 255; X, 1194
- a virus disease, X, 686
- vitamin C in, IX, 1392
- waste—
 - composting, VII, 1016
 - products, uses of, V, 463
- water requirements of, V, 462
- weeds of, VIII, 829
- windbreaks for, X, 688
- world production, IX, 700
- yield, I, 280; II, 174; V, 284; IX, 619
- Teak**, root growth in, III, 587
- Tea-tree (*Melaleuca alternifolia*) oil**, IX, 255
- Tee und Mate**, VI, 981
- Te Kauwhata horticultural station**, VIII, 1363
- Telfairea pedata**, VII, 757
- Temperature**—
 - and apricot fruit growth, VI, 677
 - changes affect lemons and mandarin, X, 200
 - and chlorophyll in seedlings, II, 5
 - control cabinet, VIII, 14; X, 27
 - and cropping of apples and pears, VI, 685; IX, 455
 - and flowering, III, 519; VI, 816; VIII, 175
 - in fruit buds of apple, raspberry and black currants, VI, 270; IX, 1165
 - and fumigation, V, 100
 - and growth, *see* Growth, affected by light and temperature
 - and hyacinths, III, 80
 - leaf, VIII, 643
 - and leaf curling, III, 77
 - and lettuce growing, V, 66; IX, 518
 - mutations in hyacinth induced by changes in, VI, 529
- photoperiod and, affect growth, *see* Growth
 - affected by light and temperature
- and photoperiodicity, VIII, 344; X, 30
- and pollen germination, V, 649
- and ripening, I, 71; II, 21
- and root growth, *see* Root growth, temperature and
- and seed viability, VI, 404
- soil, V, 162
- soil, and mulching, III, 2
- Tent fumigation**, VIII, 814
- Tephrosia**—
 - candida*, insecticidal plant, VIII, 311, 1354
 - macropoda* as insecticidal plant, VIII, 212

SUBJECT INDEX

- Tephrosia* (continued)—
purpurea as green manure, VII, 174
 spp. insecticidal plants, properties of genus,
 VIII, 554, 836; IX, 234, 1518
vogelii, V, 113, 114; VII, 999
- Terabast, fibre obtained from *Artocarpus elastica*, IX, 237
- Terminology, stock:scion, VIII, 978
- Termite—
 damage and control, X, 991
 on tea, VI, 905
 in Trinidad, VII, 1006
- Terpur, a soil disinfectant, IX, 500
- Terracing of orchards, VII, 165; X, 901
- Tetrachlorobenzene for banding, VIII, 755
- Tetranychus telarius*, VIII, 791; IX, 543, 937
- Tettigoniella viridis* on fruit trees, VII, 360
- Texas—
 agric. Exp. Stat. A.R. 1931 and 1938, II, 310;
 X, (1589)
 blackberry and dewberry vars. in, VIII, 712
 grape production in, X, 1345
 valuable plants native to, VIII, 662
- Textbook, see Manuals
- Thallium toxicity, VII, 404; X, 1089
- Thea sinensis* var. *assamica*, inflorescence and flower
 of, VIII, 225
- Thecla ortygus*, VII, 1040
- Theobroma cacao*, see Cacao
- Thermo-fertil for heating hot beds, X, 582
- Thermometers—
 in orchard heating, X, 968
 storage, X, (383)
- Thermostat, the Wädenswil, IX, 400
- Thespesia*—
lampas, a fibre plant, X, 246
populnea, as fence, VIII, 876
- Thiamin, see Vitamin B₁
- Thielaviopsis*—
paradoxa, banana strain, VII, 764
 spp. in pineapple, IX, 660; X, 307
- Thinning—
 apples, see Apple thinning
 apricots, VI, 691; X, 912
 by chemical methods, VII, 56
 citrus, VIII, 173
 dates, VII, 761
 oranges, see Orange thinning
 peaches, see Peach thinning
 pears, V, 190
 pecans, V, 577, 578
 plums, see Plum thinning
 rubber, III, 405
 by spraying, X, 880
 and storage quality of fruit, IX, 436
 tea, II, 382; IX, 1015
 in vines, II, 38; VII, 56
- Thiocyanate spray and colour of apples, X, 919
- Thiourea—
 effect on apical dominance, V, 24
 stimulates lettuce seed germination, X, 154
- Thistle, the creeping, II, 145
- Thommasiniana oculiperta*, IX, 775
- Thorn morphology in citrus, V, 255
- Thrips*—
 apple, see Apple thrips
 banana, see Banana thrips
 bean (*Hercothrips fasciatus*), VIII, 491
 cacao, VII, 1028
 in California, IX, 869
 on carnation (*Thrips tabaci*), VI, 819; VIII,
 151, 505
- Thrips* (continued)—
 citrus, IV, 262, 441; X, 1133
 coffee (*Diarthrothrips coffeae*), VI, 378;
 X, 1183
 control—
 on flowers and vegetables, VII, 147, 148
 in greenhouse, IX, 545
 gladiolus, see Gladiolus thrips
 on *Hevea*, V, 713
imaginis, I, 233; II, 346; V, 631; VI, 314
 iris (*Bremmatothrips iridis*), VIII, 521
 onion, IV, 596; VIII, 1090; IX, 516
 on orange (*Heliothrips haemorrhoidalis*),
 VII, 984
 on pineapple, VIII, 881, 1252; IX, 1440
 on rose (*Thrips fuscipennis*), VI, 821; VIII,
 151, 1116
 on strawberry (*Frankliniella tritici*), VII, 86
tabaci, VI, 819; VIII, 151, 505, 1090, 1252;
 X, 1075
 vine, VII, 904; IX, 479
 as virus vectors, see also particular infections,
 VIII, 141, 881, 1252; X, 1075
- Thyme, manuring for thymol production, V, 657;
 VI, 770; VII, 948
- Thymol production, V, 657; VI, 770; VII, 948
- Timber—
 pests, VIII, 899
 preservation, see Wood
- Timor cacao varieties, III, 393,
- Tin in canned products, VIII, 909, 1325
- Tirothaba trichogramma*, V, 721
- Titanium effect on plants, VIII, 649
- Toad, the giant American (*Bufo marinus*), V,
 633
- Tobacco—
 big bud, VIII, 153
 black fire disease (*Bacterium* spp.), VIII, 772,
 773
 blue mould, see downy mildew
 boron deficiency, VIII, 654
 in Burma, economics, X, (313)
 by-products, IX, 1081
 cigar wrapper, VII, 108
 damping off in, VIII, 221; IX, 617
 diseases, III, 387; VI, 300; VIII, 221; IX,
 536; X, 1395
 downy mildew or blue mould (*Peronospora*
tabacina), IX, 166, 537-540, 1306
 experiments at Serdang, VII, 1013
 exports from U.S.A., IX, 1081
 fermentation of, IX, (173)
 flea beetle a pest of (*Epitrix parvula*), IX, (547)
 trenching, VII, 404; VIII, 853; X, 1089
 frog eye (*Cercospora nicotianae*), VIII, 221;
 X, 251
 furnace, the Gundry, IX, 1508
 grafting, X, 171
 growing—
 in India, VIII, 1354; IX, 994
 in New Guinea, X, 1440
 in N. Zealand, X, 444
 in S. Africa, Virginia, IX, 536
 in U.S.A., VII, 401
 growth substances and, VIII, 621, 624
 horn worm and tomato worm on (*Protoparce*
 spp.), IX, (547)
 in India, seed of Virginia in, IX, 994
 leaf—
 curl virus, VII, 1014, 1015
 spot disease, IX, 162
 light affects growth, X, 1171

SUBJECT INDEX

- Tobacco (*continued*)—
manuring, VII, 184, 403, 700; VIII, 496;
X, 1087
mosaic, *see also viruses*, VII, 701, 945, 946;
VIII, 152, 488, 739, 1112; IX, (167)
necrosis, VIII, 1086
nitrogenous fertilizers, VIII, 496
nutrient deficiencies, VIII, 624; IX, 161
pests, VIII, 899; IX, 536
plant physiology of, X, (172)
polyploids, VIII, 769
Res. Stat. Vorstenland A.R. 1937/8, IX, 716
rosette disease, IX, 164, 165
rotation crops for, IX, 163
salt requirements, IX, 1013
seed—
beds, III, 386; VII, 402; IX, 165, 536
as source of oil, IX, 1499
shading effects leaf, VII, 454
soils and, VIII, 850-852; X, 1087
thallium toxicity, VII, 404; VIII, 853; X,
1089
transplanting, IX, 1012
types and varieties, X, 1087
Virginia—
seed supply in India, IX, 994
in the Union of S. Africa, IX, 536
viruses, *see also mosaic*, leaf curl, etc., VIII,
153; X, 1088, (1400)
world production, IX, 700
yellow dwarf of, VIII, 153
- Toklai—
experimental station, a guide to, X, 1172
exp. Stat. A.R. 1935-1938, VI, 992; VIII,
310; IX, 703; X, 435
- Tolulol vapour control of blue mould of tobacco,
IX, 538
- Tomato—
acetate films for glass in forcing, X, 1063
American varieties, IV, 236
animal hormones affect, VIII, 633
artificial—
colouring, I, 325
lighting for, I, 3; III, 66, 67; IV, 408;
VII, 384; VIII, 486; X, 604
ripening, *see ripening*
assimilation, IV, 195, 407, 408; VI, 797;
VII, 932; VIII, 137
bacterial canker (*Aplanobacter michiganense*),
VIII, 489; IX, 154; X, 605
Bacterium michiganense disease in, VII, 393
blight (*Phytophthora infestans*), VI, 350;
VIII, 784
blossom end rot, VII, 938; IX, 1298, 1299
blotchy ripening, VI, 346; IX, 526
bordeaux—
injury, IX, 525
spray used on, IX, 1303
boron and, VIII, 1103
Botrytis spotting, VIII, 142, 783, 1107
breeding, III, 68, 355, 356, 510; VII, 120,
121, 382, 383; VIII, 133-135, 777; IX, 37
bunchy top, V, 421
bushy stunt, VII, 126
calcium affects fruit firmness, X, 1071, 1254
canning, IV, 139; VII, 119; X, 602, 1071, 1254
carbohydrate—
content, III, 70
and N deficiency, VII, 386
CO₂—
assimilation of, VII, 932
manuring, V, 247
- Tomato (*continued*)—
cardboard containers for growing, X, 1026
carotenoid content affected by light, VI, 791
experiments at Cheshunt, VIII, 1116; IX, 1285
Cladosporium fulvum, *see leaf mould*
cloth house culture, IX, 1292
composition affected by light, VII, 384
colour, environment effects, VIII, 139
cracking of, V, 419, 420; VI, 795
cuttings, VII, 384
damping off, IX, 1294
disease organisms, temperature studies, VII,
124
diseases, III, 185; V, 651; VI, 344, 402;
IX, 1294, 1295; X, 161, (725), 1073
drying up of fruits, VIII, 487
early ripening character, IX, 918
economics of supply and demand, III, 354
celworm on (*Anguillulina dipsaci* and *Heterodera marioni*), VII, 125; VIII, 143; IX,
(547)
and electricity, III, 66, 67
environment affects growth, VII, 934;
VIII, 1102; IX, 919
ethylene treatment, *see ripening by ethylene*
evaluation of canning, X, 602
fertilizers, III, 180, 511; V, 417; VI, 713,
789; VII, 123, 387, 389, 680, 933; VIII,
140, 470, 485, 778, 779, 1105; IX, 526, 652,
1289, 1290; X, 1064, 1068-1071, 1390
flower structure modified by environment,
IX, 919
freezing in transit of glasshouse-grown, IV, 244
frost protection, II, 358
fruits—
affected by food supply, VII, 389; VIII,
1105; X, 160
composition, X, 380
morphology of, VI, 790
position and ripening, VIII, 781
fruiting accelerated by phosphate, VIII, 1105
Fusarium-resistant varieties, VII, 121; IX,
1296; X, (1400)
glasshouse construction for, IX, 1286
grafting on nightshade, X, 159
growing—
in Bahamas, VI, 887
in Bermuda, diseases and pests, VI, 402
in Brazil, X, 601
in California, VIII, 483
in cloth houses, IX, 1292
in Georgia, U.S., X, 1388
in Germany, varieties for, VII, 693
in Guernsey, wilt diseases, X, 1027
in Illinois, IX, (1304)
on a mixed farm, IX, 510
in Queensland, X, 600
in tropics, VI, 402, 887
and growth substances, VII, 122; VIII, 335,
633; IX, 356, 364, 1108, 1293; X, 1066,
1067
hardening affects cropping, VI, 793
hardiness of wild forms, VI, 794
heterosis in, VII, 382
hybrid vigour in, IX, 917
inflorescence position, VIII, 138, 1104
injection of leaf to determine mineral
deficiency, X, 1391
irrigation effect on, V, 419, 420; VIII, 1101
jointless pedicel in, VI, 342
juice, VI, 230; VII, 508, 509
ketchup, VII, 783

SUBJECT INDEX

Tomato (*continued*)—

leaf—

- area:fruit size ratio, VI, 513; VII, 388
- assimilation in, VIII, 137
- diagnosis, X, 1390
- mildew, *see* leaf mould
- miner (*Liriomyza solani*), VIII, 151, 1108
- mould (*Cladosporium fulvum*), III, 68; V, 249; VI, 345, 350; VII, 939; VIII, 142; IX, 155, 1300; X, 163, 606, 1074
- spot disease of tobacco on, IX, 162
- light effect on, I, 3; III, 66, 67; IV, 407, 408; VI, 791; VII, 931; IX, 526; X, 604
- the Marglobe, VII, 383
- market diseases of, III, 185
- maturity index, IX, 1288
- metabolism, III, 69, 70, 513; IV, 528; VII, 934; IX, 1290; X, 1069, 1070
- microsporogenesis, VII, 386
- minor elements in nutrition, VII, 933
- mites, VI, 115; IX, (873)
- mosaic, III, 189, 512; IV, 411
- moth, a pest of carnation, VIII, 505
- nailhead spot (*Alternaria tomato*), IX, 1301
- narrow leaf disease, V, 248
- nitrogen—
 - absorption by, IV, 195
 - in nutrition of, VIII, 485, 778, 779
 - supply and photosynthesis in, VI, 436
- nutrition, *see also* fertilizers, VII, 123, 938; IX, 1289
- nutritional deficiencies, effect of, IX, 1291
- packing—
 - fruits, X, 1393
 - plants, X, 1072
- paper pots for, X, 1034
- peat as medium for, VI, 789
- pests, V, 651; VI, 402; IX, 156
- phenylacetic acid and growth in, VII, 122
- Phoma* rot, VI, 116
- phosphoric acid and fruiting, VIII, 778, 779
- physiological disorders, IV, 242; VI, 346
- Phytophthora infestans* in, VI, 350; VIII, 784
- pigment—
 - effect of heat of, IV, 139
 - glands in, VII, 930
- pin worm (*Gnorimoschema lycopersicella*), VII, 940
- plants, glycerine used in packing, X, 1072
- pollen germination in, V, 649
- pollination, VI, 790
- polyploidy and vitamin C in, IV, 162
- potash and fruiting, VIII, 485, 778; IX, 526
- potassium—
 - availability to, X, (1400)
 - nutrition and metabolism, IX, 1290; X, 1068-1071
 - potato grafts, VIII, 782
- production for market and canning, VII, 119
- pruning and training, IV, 409; VIII, 780, 1106; X, 158, 1064, 1392
- psyllids (*Paratriozza cockerelli*) control, IX, 527
- puffi, heredity and, IV, 410
- puffing, X, 162
- pulp, VII, 1101
- relative, *Lycopersicum peruvianum*, VI, 113
- early ripening species, III, 355; VIII, 781
- ripening—
 - blotchy, IX, 526
 - bordeaux affects, IX, 525
 - by ethylene, I, 325; VIII, 1303; IX, 313; X, 729

Tomato (*continued*)—

rogue plants among, X, 157

root—

- growth of excised, VII, 935; VIII, 640, 948; IX, (547), 1108
- nematode (*Heterodera marioni*), IX, (547)
- pressure, VIII, 640
- tip growth, *see* roots, growth of excised and zinc deficiency, X, 1394

rubber from skins of, IX, 331

sand cultures for, VIII, 947

sap conductivity and nutrients, VII, 387

seed—

- gathering, best time for, VIII, 484
- germination inhibited by tomato juice, X, 1065

sterilization, VIII, 144

seedling—

- assimilation, VIII, 137; IX, 524
- growth rate in, VI, 792, 797
- water content, VIII, 136

Septoria lycopersici disease, VIII, 490

sickness associated with celworm, VII, 125; VIII, 143

sleeping disease, X, 1076

soil for, V, 416, 417

soil—

fumigation, X, 1064

loss of nitrogen from, VIII, 1076

moisture and, VII, 387

pore space, X, 1064

treatment for, VI, 789

spacing experiments, IX, 652; X, 603

spotted wilt virus, III, 181; V, 418; VIII, 141, 488; IX, 1297; X, 1075

spotting, VIII, 142, 783, 1107

sprays affect transpiration, VI, 796

stem—

rot (*Didymella lycopersici*), X, 607

starch content affected by environment, VIII, 1102

stopping, VI, 788, 789

storage, II, 415; IV, 293; VI, 116, 219, 938; VIII, 888, 1303; IX, 304, 305, 314, 1064; X, 380

storage losses in canning, VI, 960

streak, III, 189, 512; VII, 390-392; X, 1400

sulphur deficiency in, III, 69

temperature effects on, III, 513; IV, 407, 408

training, IV, 409; VIII, 777, 778, 780, 781, 1106; X, 158

transpiration affected by sprays, VI, 796; VII, 941

transplanting after dipping in wax emulsions, IX, 1480

unfruitfulness and male sterility, IX, 920

variation induced by radium, III, 356

varietal tests, V, 415

varieties, IV, 236; V, 415; VI, 343, 765;

VII, 121, 381, 693; IX, 151-153

vernization, IX, 916, 1287; X, 1062, 1389

Verticillium wilt, VI, 789; X, 1076

virus diseases in, V, 73, 650-651; VI, 114, 347, 514; VII, 390-392, 937; VIII, 150, 922; X, 1027

vitamin C in, IV, 162; VII, 936; IX, 1446

water—

content, IV, 408

spot, *see also* Tomato spotting, VIII, 142

watering—

methods under glass, IX, 921

underground, VIII, 1101

SUBJECT INDEX

- Tomato (continued)—**
 wild, for crossing purposes, **VIII**, 134
 wilt diseases in Guernsey, **X**, 1027
 worm on tobacco (*Protoparce sexta*), **IX**, (547)
 yield affected by rotation, **III**, 180
 zinc deficiency affects roots, **X**, 1394
- Tonka bean** (*Dipteryx odorata*), **II**, 287, 392; **III**, 242; **VIII**, 235
- Topworking—**
 apple, *see* Apple topworking
 avocado, **III**, 118; **IV**, 265
 citrus, **III**, 535; **VII**, 712; **IX**, 1339
 coffee, **III**, 106
 fruit trees, *see also* Frameworking, **I**, 32, 152; **III**, 118; **IV**, 165, 265; **V**, 12, 13, 364; **VI**, 12, 656, 661; **VII**, 24, 287, 288; **VIII**, 615; **IX**, 44, 1154; **X**, 68, 69
 kapok, **VIII**, 1194
 oranges, **VII**, 712
 pears, **VII**, 24; **IX**, 778
 vines, **VII**, 47
 walnuts, **VIII**, 1023
- Tortricidae**, biology of, **V**, 63
- Tortrix—**
 caterpillar, incidence in 1939, **X**, 990
 larvae—
 control, **V**, 231
 effect of gas in store on, **IV**, 395
 in stored apples, **VIII**, 748
- Toxoptera aurantiae**, **IX**, 209
- Tracheae**, physiology of, **II**, 20
- Tracheal sap**, **II**, 127; **IV**, 180
- Tractors—**
 Diesel, **IX**, 751
 mechanism of, **X**, 1300
 for vineyard, **VIII**, (1018)
- Tradescantia** sp., growth substances and, **VIII**, 628; **IX**, 3, 367
- Training—**
 fruit trees, **I**, 351; **VIII**, 76, 403, 404, 702-704, 993; **IX**, 407, 1173
 logan and blackberries, **IV**, 360; **IX**, 440
 tomato, *see* Tomato training
- Trans-jordan**, report on visit to, 1935, **VI**, 240
- Transmutation** of stem into root in Japanese pear, **VII**, 572
- Transpiration—**
 absorption ratio, **VII**, 276
 affected by bordeaux, **IX**, (893)
 affected by potassium, **VI**, 628
 affects mineral salt absorption and distribution, **VI**, 509; **X**, 1298
 and colour of leaf in *Canna*, **IX**, 939
 of deciduous fruits, **I**, 57, 235; **VI**, 674; **IX**, 807
 forces controlling water intake, **X**, (847)
 in lemon cuttings, **IX**, 970
 measuring, **X**, (1304)
 orange leaf, **IX**, 971
 root temperature and, **X**, 1061
- Transplanting—**
 apples, **X**, 1324
 cherries, **I**, 227
 coffee, **X**, 1319
 growth substances and, **IX**, 360
 peaches, **IX**, (1184), **X**, (921)
 tomato plants, after dipping in wax emulsion, **IX**, 1480
 trees and shrubs, **III**, 3; **V**, 560; **X**, 41
 vines, effect of pruning on, **VII**, 57, 867
 young fruit trees, **III**, 449; **IX**, 1180
- Transport—**
 of apples overseas, **VII**, 229
 of bananas, **II**, 304
 of citrus fruit, **VII**, 1077
 of fruit by rail, **VI**, 201
 of fruit from S. Africa, *see* South Africa, fruit exports from
 of grapes, **VII**, 1091
 to market of fruit and vegetables in N. York State, **IX**, 316
 vegetable, ice used for, **IX**, 317
- Transvaal—**
 citrus—
 fertilizers in Western, **VIII**, 179
 irrigation in Eastern, **VIII**, 177
 edible wild fruits, **X**, 209
- Trapa natans**, **V**, 273
- Traps** for moths, **V**, 621-623
- Traumatin**, a wound hormone, **IX**, 368
- Tree—**
 building, **IX**, 407
 fruits, bulletin on, **V**, 324; **IX**, 344
 hoppers of Pacific North West, **IV**, 225
 killing standing, **I**, 255; **VII**, 14
 and shrubs at Nikita, **X**, 771
 stump removal, **I**, 255; **VII**, 14, 39
 surgery, *see* Wounds, tree, treatment of
- Treco**, ill health of citrus at, **II**, 365
- Trials** at Wisley, fruit, *see* Wisley
- Trichilia emerita** as oil plant, **X**, 274
- Trichodermia konungi** controls *Phytophthora parasitica*, **IX**, 1302
- Trichogramma** control of tea moth, **X**, 1177
- Trichogrammae**, **VIII**, 112, 459; **X**, (563)
- Trichoseptoria fructigena** of apple, **X**, 540
- Trilisa odoratissima** leaves, **VIII**, 826
- Trinidad—**
 banana leaf diseases in, **IV**, 131
 cacao investigations at, *see* Cacao cultivation in Trinidad
 Cacao Research A.R. 2nd and 3rd, **III**, 430; **IV**, 504
 citrus—
 sanitation on River Estate, **IV**, 263
 storage in, **VIII**, 895
 Dep. Agric. A.R. 1931, 1935-1938, **III**, 134; **VI**, 1005; **VII**, 1117; **VIII**, (1378); **X**, 1583
 Dir. Agric. Administ. Rep. 1935, **VI**, 1005
 fruits, native and introduced, **X**, 1203
 fungi, *Phytophthora*, **VII**, 175
 grapefruit in, *see* Grapefruit in Trinidad
 imp. Coll. trop. Agric. A.R. 1936-1939, **VII**, 1113; **VIII**, 307, (1378); **IX**, (726); **X**, 1584
 Low Temp. Res. Stat. in 1937, **VIII**, 1257
 soil types in, **V**, 112; **X**, 1429
 sugar cane investigations A.R. 1937-1939, **VIII**, (1378); **IX**, (726); **X**, (450)
 yam experiments at, **IV**, 114
- Triploid apples**, **IV**, 20; **VII**, 555
- Tropaeolum majus**, mycorrhiza in, **IX**, 551
- Tropical—**
 agriculture—
 bibliographies, **III**, 272; **IV**, 503; **IX**, 609
 ecological factors in, **III**, 379
 crop propagation, vegetative, manual on, **VI**, 616; **X**, 772
 fruits—
 canning, **VIII**, 1317
 climate and, **VII**, 755
 harvesting, packing and marketing, **I**, 418
 Hawaiian, **VII**, 754

SUBJECT INDEX

- Tropical, fruits (*continued*)—
 juice, VIII, 1317
 latent infections in, X, 714
 respiration in store, X, 366
 species, list of, VIII, 1228
 storage, IV, 675; V, 739; VII, 1081;
 VIII, 316, 1257, 1299; IX, 303; X, 365-
 368, 738
 storage and transport, VIII, 316; X, 365
 wines from, VII, 510
 gardening and planting, VI, 237
 land tenure, II, 375; III, 93, 225, 378
 plants—
 of British Empire, VI, 239
 effect of hormodin in propagation, VIII,
 634
 literature on, III, 272; IX, 609
 in Martinique, VIII, 1336
 for paper, VIII, 268
 some useful, VI, 156; VIII, 268
 research stations, III, 135; VI, 155
 shrubs, growth substances for cuttings of,
 X, 1161
 smallholders, VIII, 1183
 and sub-tropical fruitgrowing, IX, 282, 1325
 vegetables, *see* Vegetables, tropical
- Tropics—
 deciduous fruits in, VI, 176, 920, 921
 food crops of, III, 385
 root studies in, III, 6
 vegetables for, *see* Vegetable growing in the
 tropics
- Truck crops in Hawaii, IX, 650
 Truck Experiment Station, Charleston S.C., snap
 bean investigations at, IX, 535
- Trunk—
 injuries, *see also* Wounds, tree, treatment of,
 II, 30
 effect of length on yield, V, 344
- Trypetidae*, South African, VI, 90
- Tsampedak (*Artocarpus champeden*), X, 704
- Tuba root, *see* Deris
- Tuberose, hot water treatment, VII, 424
- Tubers, effect of light and potassium on, II, 317;
 III, 1
- Tucuman, sugar cane in, VIII, 847
- Tucum palm (*Bactris setosa*) fibre, VIII, 157
- Tulip—
 breaking in, II, 274; VI, 808; VIII, 801;
 IX, (1324)
 bulb storage temperature affects growth,
 VII, 416; VIII, 517
 cultivation, VI, 807
 diseases, V, 82; VI, 530
 experiments at Kirton, IX, 182; X, 180-184,
 186
 fire, VI, 357
 flower formation, VIII, 166
 forcing, VIII, 517; X, 182
 fringed and parrot, morphology, IX, (960)
Fusarium avenaceum on, IX, 1321
 gas affects, II, 362
 grey bulb rot (*Sclerotium tuliparum*), VII, 425
 nutrition, IX, 1320
 root rot, shoot rot and shanking (*Phytophthora spp.*), IX, 558
 weed control, X, 181
- Tung oil—
Aleurites spp. yielding, VII, 203
 bacterial disease, II, 396
 breeding, VIII, 68, 203
 bronzing control by zinc sulphate, V, 682
- Tung oil (*continued*)—
 caryological description, IX, 220
 composition, IX, (1084)
 cultivation—
 in Abkhazia, X, 661
 in Belgian Congo, VII, 203
 in the British Empire, I, 95; II, 179, 395;
 VIII, 204; IX, 223
 in Burma, II, 73
 in Caucasian Black Sea coast, II, 72
 in Caucasus, X, 1142
 in Cyprus, X, 660
 in Dutch East Indies, IX, 983-985
 in East Africa, VII, 202
 in Florida, V, 681
 in general, I, 393; II, 74; V, 275; X, 659
 in Georgia, U.S.S.R., X, (664)
 in Kwangtung and Kwangsi, X, 662
 in Madagascar, III, 560
 in Malaya (Cameron Highlands), X, 663
 in Morocco, IX, 981
 in N.S. Wales, III, 559; VII, 204; VIII,
 1176
 in N. Zealand, II, 394; IV, 111; IX, 221,
 982
 in Nyasaland, VIII, 202
 in S. Africa, V, 274
 in Spain, VI, 154
 in Texas, VI, 368
 in U.S.A., X, 658
 in U.S.S.R., VIII, 1177, 1178; IX, 222;
 X, 661, (664), 1142
 diseases, IX, 986
 in drying oil market, IX, (1084)
 fertilizers, VIII, 205, 823; IX, 1363
 trenching of, VIII, 824; IX, 224
 girdling methods, X, 1143
 hybrids at Batum, IX, 222
 industry, a review, X, 411
 from Madagascar, sampling of seed, III, 560
 nuts, processing, IX, (1084)
 pests, IX, 987
 photoperiodicity affects, VIII, 1179
 photosynthesis, VIII, 806
 position reviewed, IX, 223
 production, *see* cultivation
 propagation, vegetative, VIII, 822
Pyrausta nubilalis a pest of, IX, 219
 root development, VI, 880; X, (1158)
 seed analysis, VII, 451
 selection, VI, 562; X, 220
 silicates for, IX, 589
 variation—
 in fruits, X, (1158)
 in trees, II, 393
 vernalization, VIII, 1175
- Tungsten effect on plants, VIII, 649
- Turkestan wild fruits as rootstocks, VIII, 674
- Turkey—
 agriculture in Anatolia, IV, 144
 grape varieties in, VII, 46
- Turmeric (*Curcuma longa*)—
 cultivation, VI, 173; VIII, 1222
 a new polishing machine for, IX, 256
- Turnip—
 effect of animal hormones on, VIII, 633
 breeding, VIII, 469
 brown heart of, VII, 681; VIII, 123, 396, 654
 germination, IX, 509
 vernalization, X, 461
- Twisting of tree trunks, III, 140
- Tylenchulus semipenetrans*, VII, 446; X, 649

SUBJECT INDEX

- Tyloderma fragariae*, VIII, (1072)
Typhlocyba spp. on apple, V, 232; VI, 93; VIII, 111, (1072)
Typophorus viridicyaneus on sweet potato, IX, 614
 Tyres for farm carts, rubber and pneumatic, V, 161; VI, 564; VIII, 656
- Uganda, Dep. Agric. A.R. 1932, 1934/5-1936/7, 1937-1938 and 1938/9, part 2, IV, 148; VI, 422, 1006; VII, 1118, 1119; VIII, 1374; IX, (726); X, (450), 1585
- Ukraine—
 apples in, VIII, 364
 citrus in, VIII, 804
 fruit varieties, X, 417
- Ukrainian flora, X, 1551
- Ulmus americana* flower bud and frost, VIII, 729
- Ultra-violet light, see Rays, ultra-violet
- Uncaria gambir*, IV, 275; VI, 579
- Uncinaria*—
necator, IX, 1140, 1221, 1226
spiralis, X, 545
- Unfrufulness in pomology, III, 271
- Unshiu, *see* Mandarin, Unshiu
- Urea, manurial value of synthetic, VII, 527
- Uromyces fabae*, IX, 924; X, 164
- U.S.A., trade in horticultural produce in, I, 318
- U.S. agric. Exp. Stats., bulletins issued in 1933 and 1934, VII, 798
- U.S. Dep. Agric. Yearbook 1938 and 1939, VIII, 1375; X, 789
- Useful plants of west tropical Africa, VII, 1109
- U.S.S.R.—
 agricultural exhibition 1939, X, 418
 apple—
 hybrids, VIII, 960, 962
 seedlings, II, 214
 varieties, VIII, 961; IX, 410
 aroids in Abkhazia, VIII, 860
 cinchona, *see* Cinchona in U.S.S.R.
 citrus growing, II, 46; X, 627
 deciduous fruit, varieties for, IX, 762
 essential oils and anethole, *see* Essential oils in U.S.S.R.
 greenhouse heating, IX, 131, 207
 guayule in, VIII, 870
 horticultural institutes in, II, 211; IX, 28
 pomegranate in, VIII, 819
 rootstocks used in, VIII, 374, 971
 stone fruits for canning, VIII, 668
 rubber growing, *see* Rubber in U.S.S.R.
 staple crop increased production, X, 1023
 tea growing, *see* Tea in U.S.S.R.
 viticultural advisory centres in, IX, 28
 wild fruits reclaiming, IX, 29
- Ustilago violacea* in carnation, VIII, 160, (1123)
- Ustulina zonata*—
 on cacao, VI, 379
 on oil palm, VI, 590; VIII, 875
 on tea, VI, 904
- Uzbekistan, fruit growing in, IX, 757, 758
- Vaccinium* spp., literature on, *see also* Bilberry and Cranberry, I, 166; II, 34, 35; III, 50, 311, 607; IV, 200, 201, 218, 673; V, 31, 202, 567; VI, 458, 704, 712; VII, 44, 1071, 1072; VIII, 57, 99, 410, (467), 713, (715); IX, 406, 456, 1188, 1212, 1244; X, 449, 511, 512, (950), 1341
- Valerianella olitoria*, source of oil, VIII, 797
- Valsa*—
ambiens in apples, III, 497
cincta in peach, III, 498; VI, 74, 305
 Vanadious effect on plants, VIII, 649
Vancouveria, a monograph on, IX, 555
Vanilla (V. planifolia) cultivation, X, 269
 Vapour pressure gradients in fruits, VIII, 645
 Variability in plants—chemical, VIII, 346
 Variation due to X-ray seed treatment, IV, 151
 Varieties, fruit—
 for Central Russia, IX, 762
 in Holland, IX, 406
 in Karaganda Steppe, X, 481
 trials, *see also* particular fruits, II, 318; III, 146, 280-283; IV, 18, 19; VIII, 54
 in Uzbekistan, IX, 758
 in Volhynia, II, 106
- Varnish, an oil for, from corn salad, VIII, 797
- Vegetables—
 acidity of soil and, VII, 370
 animal hormones and growth of, VIII, 633
 artificial lighting for, VI, 104
 blanching and composition, VIII, 1324
 breeding, III, 62; VIII, 115, 121, 127; X, 129
 canned—
 hydrogen ion concentration in, X, 1529
 mineral content, IX, 1494
 canning, VII, 772; VIII, 1321, 1322, 1324; IX, 322, 1494
 for canning, III, 175, 611
 chemical composition, VII, 921; VIII, 1322
 colouring with ethylene, III, 128
 composition and blanching, VIII, 1324
 crops for market, VII, 522
 crucifers, improvement of leafy, VIII, 127
 Danish varieties, VIII, 468
 diseases, II, 273; III, 185, 360; IV, 241, 242, 400, 586; V, 412; VI, 523, 957; VII, 687; VIII, 770; IX, 311, 895, 1266
 diseases, relation of insects to, VIII, 1083
 drying, VIII, 1323; IX, (325); X, 761, 1531
 drugs, IX, 1080
 experiments—
 at Alnarp, IX, 508; X, 1552
 colloidal clay culture in, X, 1031
 in sand cultures, IV, 81
 frozen—
 enzyme activity in, IX, 666
 pack preservation, II, 303; IV, 137; VIII, 1306-1309
 garden, the, V, 635; VIII, 790; X, 420
 germination, IX, 509, 899
 germination:seedling growth ratio, IV, 83
 under glass, IV, 234; VII, 789; X, 1024, 1025
 growing—
 in the Arctic, VIII, 1082; X, 134, (850)
 in British Columbia, VIII, 114
 in Canadian North West, X, 1560
 for canning, III, 175, 611
 in Daghestan, X, 1022
 in Dutch East Indies, I, 218
 in England, root, X, 428
 in frames, IV, 234
 in Germany, districts of, VI, 771
 in Japan, IX, 408
 in Maryland, variety trials, VI, 765
 in Minnesota, X, (1400)
 in Norway, root, IX, 1265
 on prairie farms, X, 1021
 for Scottish growers, IX, 546
 in Texas, VI, 329

SUBJECT INDEX

Vegetables, growing (continued)—
 in the tropics, IV, 287; V, 198, 200, 404, 885-887; VII, 688; VIII, 267, 1344; IX, 1442; X, 719-(725), 1162, 1547, 1548
 health and disease in, IV, 586
 and human nutrition in tropics, X, 720
 and humus, VII, 790
 inspection by X-ray, VIII, 726
 iodine in nutrition of, III, 351; IV, 239; VII, 370
 irradiation of, IV, 592
 irrigation of, V, 65, 411; VIII, 1081
 ivory palm (*Hypomea ventricosa*), III, 247
 juices, IX, 1079, 1085
 liming for, VII, 790; IX, 896
 machinery in production of, V, 64
 magnesium deficiency in, V, 638
 manganese deficiency in, IV, 240; V, 639; VII, 131
 manuals on, VII, 522; IX, (1515); X, 766
 manuring, I, 119; II, 272; III, 63, 351; IV, 235, 587, 588; VI, 105, 330, 772; VII, 367-370, 686, 922; VIII, 118, 119, 470, 790, 1079; IX, 69, 896, 1262-1264; X, 584, 1380, 1381
 market diseases of, VII, 1073; IX, 311
marketing—
 co-operative, VI, 245
 by motor truck, VII, 853
 in New York, IX, 1068
 at Moscow Agricultural Exhibition, X, 133
 mulch paper for, I, 119
 nutrient deficiency, VI, 772; VIII, 1078; IX, 143
 peat dust for storing, IX, 305
 pests, III, 74; IX, (547)
 phosphorus manuring, VI, 772
 for pickling, VI, 512; VIII, 799
 plot lay out for, III, 439
 pot experiments, soil medium for, IX, 894
 potassium—
 affects growth, IX, 1264
 iodide applied to, VII, 370
preservation—
 domestic, VII, 787
 by freezing, II, 303; IV, 137; VIII, 1306-1309
 processing and vitamins, VIII, 286
 protein quality in, VII, 922
 quality standards, VII, 921
 research, *see also* experiments
 research—
 in Morocco, VI, 868
 in Norway, X, 446
 in Sweden, IX, 508; X, 1552
respiration, VII, 496
root—
 breeding, VIII, 121
 in England, X, 428
 in Norway, IX, 1265
seed—
 dormancy, VIII, 1073
 drying artificially, X, 130, 131
 germination, VIII, 1074, 1075; IX, 509, 899
 pickling agents and infected, IX, 173
 production, VIII, 916; X, 1162
 storage of, V, 636; IX, 1261; X, 1035
 viability, VI, 404
 seedlings, method of raising, VII, 366
soil—
 heating for, IV, 589
 preferences in Vale of Evesham, VII, 679

Vegetables, soil (continued)—
 problems, II, 359; III, 350; IV, 399; VII, 370
 statistics, methods of preparing, X, 412
 storage, II, 303; III, 418, 592, 594, 595; IV, 137, 676, 676; V, 422; VI, 202, 405, 511, 937-939; VII, 496, 1081, 1085; VIII, 271, 273, 275, 582, 588, 888, 892, 1300; IX, 304, 305, 661, 1448; X, 316, 372-374, (742)
 sulphur for, VIII, 1079
 supplies in U.K. in 1937 and 1938, VIII, 1341; IX, 1516
 taste affected by manuring, IX, 1262
 transit and storage diseases, VI, 957
 transport to market, IX, 316, 317
 tropical, storage of, VII, 1081; VIII, 316
 vegetative propagation, VII, 283
 vitamins in, VI, 945; VII, 489, 925; VIII, 286; IX, 1443-1445; X, 720
 watering, X, 579, 580
 wax as preservative for, X, 1220, 1523
 weevil (*Listroderes obliquus*), IX, (547)
 yield tests, II, 359
Vegetative propagation—
 of fruits and vegetables, VII, 283;
 and growth, *see* Growth substances
 review of literature on, X, 1297
 of tropical and sub-tropical fruits, VI, 616
 of tropical and sub-tropical plantation crops, X, 772
Venturia—
inaequalis, *see* Apple scab
pirina, *see* Pear scab
Verbascum spp. for flores verbasci, VIII, 514
Verderame sulphur dust against *Botrytis* on grapes, IX, 474
Vermin, *see also* particular types, I, 155; V, 632; VI, 393
Vernalization—
 beetroot, X, 461
 broad bean, VII, 942
 cucumber, X, 1062
 and growth-phase concept, X, 462
 marrow, IX, 916
 pea, X, 167
 potato, IX, 514
 theory of, IV, 316, 317; VI, 2
 tomato, IX, 916, 1287; X, 1062, 1389
 tung, VIII, 1175
 turnip, X, 461
Verticillium—
 causing thrombosis in *Prunus*, VII, 894
 wilt in—
 carnation, *see* Carnation, *Verticillium* wilt
 chrysanthemum, VIII, 509, (1123); X, 1027
 hop, *see* Hop, *Verticillium* wilt
 Rubus, VII, 71
 tomato, VI, 789; X, 1076
Vetch seed germination, growth substances and, IX, 10
Vetivera zizanoides, essential oil plant, X, 1472
Vi apple (*Spondias cytherea* or *dulcis*), VI, 180
Viability of seeds, *see* Seed viability
Viburnum spp. breeding, VIII, 50
Victoria, Aust.—
 cherry growing in, IV, 13
 walnuts in, VIII, 1019
Vigna—
sesquipedalis, VIII, 126
sinensis—
 as green manure for camphor, VIII, 871
 varieties, X, 723

SUBJECT INDEX

Vine—

- American rootstocks, *see* rootstocks
 American varieties, **VIII**, 424
 the *Ampelidaceae*, **III**, 168
 ampelography, **II**, 266; **III**, 479; **IV**, 51, 203;
 V, 205, 570; **IX**, 78; **X**, 931
 the Amur grapes, **X**, 936
anthracnose (*Elsinoë ampelina*), **VII**, 901;
 IX, 1221; **X**, (546)
 apoplexy, **V**, 37
 bacterial blight, **IX**, 1224
 Berlandieri, propagation of, **X**, 522
 Beta grape winter injury, **V**, 207
 bordeaux spray, use on, **III**, 58
 boron deficiencies, **VII**, 322; **IX**, 836
Botrytis rot on grapes, *see also* grape wastage,
 VI, 747; **IX**, 474; **X**, 117-119, 345, 346
 breeding, **I**, 330, 359; **II**, 149; **III**, 53, 318;
 V, 9, 35; **VII**, 863; **VIII**, 60, 717; **IX**, 79,
 80, 1140; **X**, 520, 932, 933, (950), 1344
 bud—
 break affected by heavy water, **VII**, 594
 mutations, **V**, 206; **VI**, 286, 716
 budding, “T”, **X**, 937
 burnet moth, **IX**, (893)
 cambium, intra-cellular rods in, **VII**, 891;
 IX, 452
 Campbell Early, **I**, 17
 carbohydrate metabolism of *Vitis vinifera*,
 IX, 449
 C and N contents affect fruit set, **VI**, 463
 chlorine in leaf, **IV**, 207
 chlorophyll in grapes and raisins, **VIII**, 64
 chlorosis in, **VI**, 733; **X**, 533
 climate affects nutrition, **VII**, 50; **VIII**, 1011
 Concord, **III**, 55; **IV**, 56, 370
Coniothyrium diplodiella disease, **VI**, 78
 coulure, **IV**, 55; **V**, 571; **VIII**, 1038; **X**, (83),
 1357
 court noué, **IV**, 382; **VII**, 330; **VIII**, 444,
 1051, 1052; **X**, 103-106
 cultivation affects nutrition of, **VII**, 54;
 VIII, 428
 currant—
 industry throughout the world, **IV**, 686
 production, yearly figures of, **VIII**, 926;
 IX, 701
 seeds in, **III**, 319
 Zante—
 for breeding work, **III**, 319; **IV**, 686;
 X, 1344
 ringing, **VIII**, 65, 66
 cuttings, **II**, 37; **III**, 480; **IV**, 53, 367;
 VI, 461; **VIII**, 1009; **IX**, 3, 5, 834, 1200;
 X, 459, 1346
Dactylospora vitifoliae, breeding for resistance to, **IX**, 1140
 dead-arm disease (*Fusicoccum viticolum* and
 Cryptosporrella viticola), **IX**, 475, 1221
 dehydration of grapes, *see* grape drying
 deterioration in saline soils, **VII**, 889
 direct producers, **I**, 18; **II**, 40; **IV**, 209, 210;
 VIII, 751, 1017; **X**, 521, 938, 1245
 disbudding, **VII**, 593
 disease affects vigour, **VII**, 55
 diseases, **III**, 58; **IX**, 1218, 1221
 drop berry, **VIII**, 1284; **IX**, 1464; **X**, 348,
 349
 drought-resistant varieties, **X**, 941
 dusting to control disease and pests, **III**, 58;
 VIII, 465
 dying vines disease, **X**, 1358
 enzymes in shoots of, **IX**, 451
 fertilizers, *see* manuring
 field experiments, **IX**, 365, 548
 flower—
 bud, *see* fruit bud
 formation in Sultanina, **VIII**, 63
 pinching improves set, **VII**, 866
 frost measures and damage, **IV**, 369; **V**, 207,
 380, 381; **VII**, 630, 631, 876; **VIII**, 1033;
 IX, 460; **X**, 95, 527, 528, 967
 fruit—
 bud, **II**, 152; **IV**, 204, 206; **VII**, 596;
 VIII, 63
 set affected by boron deficiency, **IX**, 836
 set increased by flower pinching, **VII**,
 866
 set in Muscat of Alexandria, **VI**, 463;
 IX, 836
 fruiting, **I**, 17
Fusicoccum viticolum disease, **IX**, 475
 Gamay, **IX**, 448
 genetic basis of breeding, **VII**, 863; **X**, (950)
 girdling, *see* ringing
 grafting, **II**, 36; **VI**, 51, 460; **VIII**, 62, 431,
 630; **IX**, 1, 5, 464, 1200
 dry stalk in grape, **X**, 116, 117, 348
 grapes—
 for Canadian home use, **X**, 519
 diseases, market, **IX**, 1218
 drying, **I**, 20; **II**, 92; **VI**, 415; **VII**, 502,
 595
 export industry, Australian, **IX**, 83
 growth affected by seeds, **VI**, 720
 handling and wastage, **X**, 116-118
 heat damage to, **X**, 530
 jelly, **X**, 1533
 juice, **VI**, 56; **VII**, 243-245, 1097, 1098;
 VIII, 597; **X**, 754
 the Khalili, **VIII**, 717
 Muscadine, **VI**, 717, 718; **VIII**, 425
 packing, **VIII**, 1283; **IX**, 1203, **X**, 116-118,
 346, 347, 350
 pips as source of oil, **IX**, 1498; **X**, 402
 preservative agents for, *see also* storage,
 IV, 294; **V**, 737; **X**, 346, 347
 production figures, **VIII**, 926; **IX**, 701
 respiration, **II**, 151
 ripening, **II**, 265; **VIII**, 708, 718, 1328;
 X, 940
 ripening, total heat necessary for, **X**, 940
 seedless—
 breeding, **VII**, 864; **X**, 520, 932
 cultivation, **IV**, 551
 Seedless Emperor, **X**, 934
 seedless—
 relation between drop berry and seed-
 lessness, **X**, 349
 Zante currant, **X**, 1344
 size affected by leaf area, **X**, 939
 storage, **IV**, 294, 295; **V**, 737; **VI**, 956;
 VII, 1058; **VIII**, 585, 887, 1283, 1285,
 1311; **IX**, 305, 1460-1464, 1481; **X**, 345-
 350, (351), 736
 table, **I**, 425; **II**, 265; **III**, 56; **IV**, 550-554,
 691; **VI**, 48; **VIII**, 1283-1285, 1311;
 IX, 83; 1197; **X**, 116-118
 transport, **VII**, 1091
 utilization, **IX**, 1461
 vitamins in, **II**, 267; **III**, 55
 Waltham Cross, **VIII**, 1284
 warming prior to vinification, **VIII**, 1328

SUBJECT INDEX

- Vine, grapes (*continued*)—
 wastage, *see also* Vine *Botrytis* rot, V, 737; VI, 747; VII, 1091; VIII, 1283; IX, 1462-1464; X, 345, 116-118
 wrappers for, VI, 956; IX, 1463, 1481
 growing—
 in Algeria, I, 262
 in Arkansas, IX, 1193, 1201
 in Arizona, IX, 833
 in Australia, table export industry, IX, 83
 in Auvergne, X, (950)
 in Belgium, IX, 1197
 at Berri, experiments on, V, 34
 in California, ampelography of viniferas, IX, 78
 in Cyprus, II, 354
 in Eastern U.S.A., economics of, IV, 546; VI, 47
 in Europe, I, 13
 in Florida, IX, 1194
 in France and her overseas possessions, X, 81
 in Germany, problems of, X, 80
 under glass, VII, 307; IX, 1197
 in Holland, IX, 406
 humus provision in, VI, 723
 in Hungary, IX, 837
 in Japan, IX, 408
 in Libya, X, 45
 in Murrumbidgee Irrigation Areas, IX, 77
 in New Zealand, VIII, 1363
 in Ontario, VIII, 716
 along Orange River, S. Africa, VII, 592; IX, 1196
 in Queensland, IX, 1195
 in S.W. Africa, IV, 208
 in Tanganyika, IV, 208
 in Texas, X, 1345
 in Turkey, IX, (838)
 in U.S.S.R., northward expansion of, X, 935
 growth—
 affected by daylight, VI, 52
 in early years, factors affecting, VIII, 1009; X, 82
 substances, use on, VIII, 62, 431, 630; IX, 1, 5, 834, 1200; X, 459, 1346
 hail damage and protection, V, 208; VII, 632; VIII, 1030; X, 91
Haltica ampelophaga pest of, VIII, 453; X, 556
 hardiness in hybrids, X, 518
 heat necessary to ripen Tokay grapes, X, 940
 hemicellulose, carbohydrate metabolism, IX, 449
 heredity, VIII, 426
 hybrids, *see also* direct producers, I, 18; II, 40; IV, 209, 210; X, 518
 internode determination, IV, 366
 iron in grapes and wine from, VIII, 596
 irrigation, II, 353; IV, 207; V, 377, 555; IX, 77
 Kniffin trellis system of training, VIII, 719
Labidostomis taxicornis, a pest in, VIII, 753
 labourers, arsenic poisoning in, IX, (1260)
 layering, VI, 717
 leaf—
 area affects grape size, X, 939
 composition and fruitfulness, X, (83)
 development, II, 355
 diagnosis, I, 245; III, 321-324; IV, 207, 211, 371; VIII, 1010-1012
 vine, leaf (*continued*)—
 :fruit ratio and quality of crop, X, 523
 removal, X, 944
 lightning strike, IX, 852
 Limburger, IX, 448
 lime and gypsum for, VII, 53; VIII, 1015
 manuring, I, 167, 261; III, 57, 321-324; IV, 207, 211, 371; VI, 54, 55, 721, 723, 724; VII, 50-55, 309-311; VIII, 67, 433, 989, 1010-1013, 1015; IX, 69, 82, 470; X, 942
 maturity of grapes, *see* grape ripening
 Mediterranean fruit fly, VIII, 585
 at Merbein research station, V, 568
 mildew, downy (*Plasmopara viticola*), III, 53; VII, 900; VIII, 445; IX, 79, 80, 101, 1140, 1221; X, 115
 mildew, powdery (*Uncinula necator*), IX, 1140, 1221, 1226
 mites, IX, 215, 479
 mould in currant, IX, 470
 Muscat of Alexandria, fruit set in, VI, 463; IX, 836
 mutations, V, 206; VI, 286, 716
 nematodes and rootstocks, VII, 83
 nitrogen and mould in currant, IX, 470
 nursery, manuring in, VII, 309
 nutrition—
 affected by rootstock, X, (83)
 and water supply, IX, 82
 nutritional variations, VII, 54
 Ohanez, IV, 54
 oidium, X, 545
 origin and spread, IX, 1192
 over production of wine in France, VI, 49
 panachure, VIII, 1041
 parthenocarpic in, VIII, (715)
 pests, III, 504; IX, 479, 684; X, 1263
 pH for water cultures, IV, 366
 phosphatic manuring, VII, 310, 311
Phylloxera vastatrix—
 breeding against, IX, 79, 1140
 direct producers and, VIII, 751
 injury from root form, IX, 110
 resistant stocks, III, 54; IV, 549; V, 35; VI, 50, 287, 462, 753; VII, 48; VIII, 447, 751, 1008; IX, 79, 109, 1199
 virulence of biotypes, IX, 109
 physiological diseases, VI, 479; X, 1270, 1358
 Pinot, IX, 448
 planting—
 density and arrangement, IV, 548
 systems, IV, 548; VIII, 427
Plasmopara viticola, *see* mildew, downy
 pollen test media, IX, 835
 pollination, I, 15; V, 36; VI, 718; VIII, 432
Polychrosis botrana pest, VIII, 465
 potassium—
 deficiency, VII, 51; VIII, 433
 fertilizers, VII, 52
 powdery mildew (*Uncinula necator*), IX, 1140, 1221, 1226
 propagation, III, 480; IV, 366, 367, 552; VIII, 61, 62, 430, 431, 630, 1009; IX, 1, 3, 5, 464, 1200; X, (83), 459, 522, 937, 1346
 pruning, I, 17; II, 38, 352; III, 169, 320, 425; IV, 56, 370; V, 208, 376, 573; VI, 57, 722; VII, 57, 593, 867; VIII, 429, 719, 1013, 1014; X, 1347
Pseudococcus citri, pest in, X, 552
 quality of products, factors affecting, VIII, (1018)

SUBJECT INDEX

- Vine (*continued*)—
 raisins, *see also* sultana
 raisins—
 industry, IV, 686
 production figures, VIII, 926; IX, 701
 production of seedless, IV, 551
 red grape, IX, 448
 reisig disease, VI, 479; VII, 891; IX, 465
 ringing, II, 39; VI, 58; VII, 593; VIII, 65,
 66, 718; X, 943
 root—
 growth affected by nutrition, IX, 82
 growth, seedling, VIII, 637
 knot nematode (*Heterodera marionii*), VII,
 83
 systems, II, 268; IV, 53, 367; VI, 53;
 VII, 308; VIII, 637
 rootstocks, I, 16, 19, 168; II, 150; III, 54;
 IV, 52, 367, 549; V, 35; VI, 50, 287, 462,
 753; VII, 48; VIII, 447, 751, 1008;
 IX, 1198; X, (83), 517
 Sacaton, Ariz., investigations at, IX, 217
 saline soils and deterioration, VII, 889
 sap investigation, VII, 49
 seeds—
 affect growth, VI, 720
 germination and after-ripening, VII, 865
 Seedless Emperor, X, 934
 seedless grapes, *see* grapes, seedless
 selection, III, 52
 selenium absorption, VIII, 1139; IX, 215
 sex—
 determination, VIII, 426
 inheritance in, VI, 459
 shoots—
 enzymes in, IX, 451
 secondary, fertility of, VIII, 1014; IX, 81
 specific weight of, IX, 450
 soil problems, I, 14, 263; IV, 205, 547;
 VII, 48, 51, 53, 55
 soluble salts in vineyards, IV, 205, 207;
 VII, 889
 spray residue and light absorption, IV, 368
 storage of grapes, *see* grape storage
 sulphuring for oidium, VII, 651
 sultana, *for further detail see* Sultana, II, 152;
 268, 354; IV, 204; V, 573; VI, 415;
 VII, 502, 592, 593, 596, 632, 651; VIII, 63;
 IX, 84, 85, 1196; X, 1532
Sultana gigas, VI, 716
 supports for, V, 572; VIII, 1016; IX, 1202
 table grapes, *see* Grapes, table
 thinning, II, 38; VII, 56
 thrips (*Rhipiphorothrips cruentatus*), VII, 904;
 IX, 479
 tipping, VIII, 66
 Tokay vines, heat needs, X, 940
 topworking, VII, 47
 tractors, VIII, (1018)
 training, IV, 548; VIII, 429, 719; X, 1347
 transplanting, pruning prior to, VII, 57,
 867
 uniformity trial, III, 51
 varieties—
 in Arizona, IX, 833
 in Arkansas, IX, 1193
 Central Asiatic, VIII, 1007
 early, V, 570
 for Oregon, VI, 719
 in Turkey, VII, 46
 vigour related to soil, manures and disease,
 VII, 55
- Vine (*continued*)—
Vitis—
 berlandieri, III, 480
 vinifera—
 breeding of, II, 149
 somatic mutation in, X, 934
 water supply and, IX, 82
 weed control, VII, 89
 white rot (*Coniothyrium diplodiella*), VI, 78
 wine quality, factors affecting, V, 569
 wood—
 diagnosis, IV, 211
 maturity, VIII, 430; IX, 82
 wound gum, II, 141
 yellow streak in leaves, VII, 330
 Zante currant, VIII, 65, 66; X, 1344
 Vineland, hort. Exp. Stat. A.R. 1937/8-1938/9,
 IX, 722; X, 1586
 Vinification, grape warming before, VIII, 1328
 Violet—
 chromosome studies, V, 658, 659
 cultivation in England, IX, 554
 nematode controlled by heat, IX, 456
 scab (*Spaelceloma sp.*), VI, 128
Virachola livia of pomegranate, X, 656
 Virus—
 in apples, V, 212; VIII, 90; X, 100
 aster yellows, V, 428; VI, 129
 in avocado, VI, 876
 in bean, VIII, 770
 bitter pit a ?, IV, 216
 in cacao, swollen shoot, X, 1190
 in cassava, *see* Cassava, virus diseases
 in celery, VII, 927; IX, 147
 in Chinese cabbage, VIII, 1091
 in chrysanthemum, VIII, 509
 in citrus, *see* Citrus virus
 crinkle of strawberry, *see* Strawberry crinkle
 crinkle of strawberry, disease like, IV, 373
 cranberry false blossom, IV, 218
 of crucifers, VIII, 1091
 in cucumber, V, 425
 in dahlia, III, 365, 527
 diseases, *see also under particular diseases*
 diseases—
 anatomical aspects of problem, IX, 468
 bibliographies, IV, 494; V, 388; VI, 66;
 X, (1378)
 chemistry of, VIII, 738
 general observations on, III, 39, 489
 grafting for recognition of, II, 148
 heat treatment, IX, 456
 host index, VI, 67; X, (1378)
 identification of, VIII, 88, 739; X, (1086)
 investigations—
 at Lenin Academy of Agricultural
 Sciences, U.S.S.R., X, (1587)
 recent, III, 186, 612; VIII, 737; IX, 95
 movement in plants, IX, 1103
 in Porto Rico, VIII, 87
 in Queensland, X, 972
 seed transmission, V, 424
 spread by blackberries, VII, 88
 vectors, II, 148; III, 187, 188; IV, 61, 217;
 V, 214, 215, 390; VI, 67, 478, 895, 896;
 VII, 88, 635, 637, 892; VIII, 141, 147,
 752, 881, 1058; IX, 95, 857, 1219, 1518,
 1519; X, 101, (1086), 1169, 1207, 1361,
 (1378)
 vitamin C may affect resistance, IX, 515
 fig mosaic, IV, 556; VI, 69
 of glasshouse and garden plants, VI, 68

SUBJECT INDEX

Virus (*continued*)—

- in groundnut, rosette, VII, 469; X, 1207
- in hops, VIII, 791
- in lettuce, *see* Lettuce mosaic
- lily-mosaic, VIII, 1086
- in musk melons, V, 424
- in narcissus, stripe disease, VIII, 800
- in ornamentals, VIII, 150
- in passion fruit, VIII, 1043; X, 101, 438
- in pea, *see* Pea viruses
- in peach, *see* Peach yellows, mosaic, etc.
- in pear, IX, 1220
- in pecan, VIII, 89
- in pineapple, VIII, 881, 1252; IX, 1440
- in potato, *see* Potato virus
- in prune, VII, 331;
- in *Prunus* spp., mosaic, X, 535
- in raspberry, *see* Raspberry mosaic, etc.
- in rose, mosaic, X, 621
- in spinach, IX, 908; X, 1055
- in strawberry, *see* Strawberry yellows, etc.
- in sweet pea, VII, 408
- in tea, X, 686
- in tobacco, *see* Tobacco viruses
- tomato, *see* Tomato viruses
- in tulip, *see* Tulip breaking
- in vines, VIII, 1041; X, 103, 106
- yellow edge, *see* Strawberry, yellow edge

Vitamins—

- affected by—
 - canning and cooking, V, 244; VI, 945, 959, 962; VIII, 1314
 - drying, VIII, 1314
 - manuring, V, 244; VII, 809, 810; VIII, 10, 789
 - processing, I, 206; V, 244; VI, 945; VII, 491; VIII, 286; IX, 1444, 1445
 - storage, VIII, 286, 891, 892; IX, 1444, 1445; X, (1240), 1521
- antiscorbutic, *see* Vitamin C
- in apples, *see* Apple vitamins
- in citrus, *see* Citrus fruit, ascorbic acid
- in cranberries, III, 607
- in grapes, II, 267; III, 55
- in lettuce, VI, 334
- in mango, II, 188; IV, 473; VII, 490
- in prunes, I, 206; VII, 491
- review of research on, VIII, 1315
- in vegetables, *see* Vegetables, vitamins in

Vitamin A, *see also* Carotene

Vitamin A—

- in apple, X, 314
- in asparagus, V, 244

Vitamin B₁—

- affected by storage, X, 1521
- determination, VII, 811
- as growth substance, X, (460), 820, 1274, 1280
- and root growth, IX, (372)

Vitamin C—

- in Actinidia* spp., VIII, 51; IX, 75

affected by—

- arsenic spray, II, 54
- manuring, VII, 809, 810; VIII, 10, 789
- shipping and freezing, VI, 959
- storage, VIII, 891, 892; IX, 1445; X, (1240), 1521
- in apple, *see* Apple, ascorbic acid in
- (canned) apple, X, 390
- in apricot, I, 206
- in asparagus, V, 244; VIII, 891, 892
- in banana, VII, 1083

Vitamin C (*continued*)—

- in citrus fruits, *see* Citrus fruit, ascorbic acid cooking in presence of salt helps to retain, VIII, 1085
- derivation of, II, 207
- determination, VII, 811
- extraction, IX, 370
- in fruit juices, X, 1249
- in fruits and vegetables, VI, 945; IX, 1443
- as growth substance, VII, 817; X, 1273
- in Indian foodstuffs, VII, 489
- in lemon, VII, 1079
- light influences, IX, 1124
- narcotin as derivative of, II, 207
- in orange, *see* Orange, vitamin C in
- in pea, VI, 959; VII, 944; VIII, 892
- in pear, VII, 231
- and plant regeneration, VII, 817
- in potato, IX, 515
- in rhubarb, VI, 962
- in spinach, VII, 925
- in tea, IX, 1392
- in tomato, IV, 162; VII, 936; IX, 1446
- and virus resistance, IX, 515

Vitamin D in cacao, VI, 231; VIII, 914

Viticulture, *see* Vine growing*Vitis*, sex determination and sex heredity in, VIII, 426*Voandzeia subterranea*, X, 1147

Volhynia, fruit varieties in, II, 106

Vorstenland tobacco Res. Stat. A.R. 1937/8, IX, 716

Waite Agric. Res. Inst. A.R. 1937/8, X, (1589)

Walnut, *see also* Juglandaceae

Walnut—

- ash composition in relation to yellows, IV, 213
- bacteriosis, III, 190; IV, 223, 558; V, 217, 592

black, seedling production in, VII, 313

- blight (*Bacterium (Pseudomonas) juglandis*), III, 190; IV, 223, 558; V, 217, 592

breeding, VIII, 68

budding, VIII, 721; IX, 454

in bulletin on nuts, VIII, 434

caterpillar (*Datana integerrima*), X, 1371*Chalaropsis* infection of nursery trees, V, 396

classification, VIII, (1024)

cooling moth (*Carpocapsa pomonella*) in

Persian, VI, 312

dehydrators, II, 297

dichogamy in, III, 481

at East Malling, IX, 454

European canker in, V, 601

flower morphology, IX, 453, 1204

frost injury, VII, 623; IX, 454, 851

fruit development in *J. regia*, V, 576

grafting, VIII, 721; IX, 454

growing—

in Crimea, VIII, 1021

in England, I, 6; III, 59, 171; V, 574; VI, 464; VIII, 434; IX, 454

in Holland, IX, 406

in Isère valley, VIII, 1020

in Italy, X, 945

in Oregon, IV, 57; VIII, 1023

in Palestine, trials at Mikveh Israel, V, 378

in Switzerland, varieties, IX, 39

in Victoria, Aust., VIII, 1019

hardiness in English, V, 575

husk fly (*Rhagoletis completa*), IV, 574, 575;

V, 405; VII, 907

SUBJECT INDEX

- Walnut (*continued*)—
 incompatibility in, III, 173
 kernels, storage, VII, 1059; X, 449
 mites, IX, (1355)
 in Moldavia, varieties found, VIII, 1022
 natural regeneration of, VIII, 69
 pests, X, 1263
 pH for, IX, 1336
 pollination, III, 481; IV, 212
 propagation, I, 6; II, 153; III, 172, 173;
 V, 209, 574; VII, 314; VIII, 70, 720, 721;
 IX, 454; X, 946, 1348
 pruning, I, 264
 root growth, V, 176
 rootstocks, IV, 168; VII, 58; IX, 454;
 X, 865
 shells, gas and carbon production from,
 X, 759
 soil moisture, X, 1349
 spraying, IV, 558, 574; VII, 351
 topworking, VIII, 1023
 yellows, IV, 213
- Wampee (*Clausena lansium*, *C. wampii*, *Cookia punctata*), VI, 385
- Washing fruit, *see also* Spray residues, IV, 302;
 V, 227, 615-618; VI, 321-323, 325, 326;
 VII, 100-104, 673, 914, 915; VIII, 466,
 (467), 759, 762; VII, 125, 126, 501; X, 1018
- Washington State agric. Exp. Stat. Pullman A.R.
 1934/5 and 1936/7-1937/8, VI, 1008;
 VIII, (1378); IX, 723
- Washington State hort. Ass., Proc. 26th, 33rd and
 34th annu. Meet., VIII, 1376; IX, 724
- Wastage, *see also particular fruits*, effect of con-
 tainer on fruit, VII, 1060
- Waste—
 land, plants for use on, III, 277
 products of agriculture, *see also* Compost,
 I, 422; V, 463; VI, 430
- Water—
 absorption, root resistance and, X, 466
 chestnut (*Trapa natans*), V, 273
 conditioning hard, IX, 401
 conductivity—
 in apples, IV, 527, 528
 in fruit trees, II, 20
 conservation—
 in Cyprus, X, 40
 effect of forests on, VI, 247
 content—
 and storage quality of pears, VIII, 694
 of tomato seedling, diurnal and seasonal
 effect on, VIII, 136
- Watercore in apples, *see* Apple watercore
- Water courses, protection of, X, 233
- Watercress—
 caddis fly pest of, X, 1059
 cultivation, X, 1386
 manuring, VIII, 1096; IX, 1279
- Water—
 culture—
 apples in, VII, 566; X, 74
 compared with soil culture, IX, 742
 manuals on, VIII, 1334; X, 767, 1544
 a new vessel for use in, VIII, 12
 pineapple experiments in, IX, 649
 for study of mineral nutrition, IX, 390
 tomatoes in, IX, 393
 use of, generally, IX, 394, 741, 1127, 1128;
 X, 28, 848, 1291, 1292
 deficiency affects photosynthesis, VI, 674
 deficit in citrus, VII, 718
- Water (*continued*)—
 distribution in fruits, VIII, 645
 divining, bibliography on, IX, 27
 heavy, effect on bud break, VII, 594
 hot—
 bulb treatment with, *see* Bulbs, hot water
 strawberry treatment with, *see* Strawberry,
 hot water
 hyacinth (*Eichhornia spp.*), VII, 176; X, 576
 melon, *see* Melon
 movement in raspberry plants, VII, 856
 pear ripening and supply, II, 330; VIII, 694
 plant growth in, *see* cultures
 plant for obtaining, IV, 512
 plants, growth substances and, X, 20
 relations in citrus, IV, 432
 requirements of deciduous fruit trees, VI, 38
 ripening and supply of, II, 330; VIII, 694
 shoots of fruit trees, X, 888
 storage by dams, VIII, 550
 supply—
 plant, IV, 512
 and productivity, VIII, 11
 and storage quality of pears, VIII, 694
 table—
 and disease incidence in cucurbits, X, 156
 and gumming in plums, IV, 525; VI, 470
 level and bulb growing, IX, 185
- Watering—
 glasshouse plants, X, 1032
 vegetables, X, 579, 580
- Waterlogging—
 of citrus, VI, 852
 deciduous trees, VII, 319; VIII, 42
- Watsonia eradication, X, 1377
- Wattle—
 bagworm (*Acanthopsyche junodi*), VIII, 452
 (*Acacia mollissima*) cultivation, II, 198
 froghopper, dusting for, X, 1157
- Wax—
 carnauba, VIII, 254
 content of apples, VIII, (1292)
 grafting, VI, 652; IX, 1156; X, 861, 947
 as preservative cover—
 for apples, *see* Apples, wax application
 for fruits, IV, 135; IX, 456; X, 1219
 for grapefruit, X, 1231
 for pears, VI, 955
 for tomato plants at transplanting, IX, 1480
 for vegetables, X, 1220, 1523
- Weather—
 and fruit crops, IV, 334; VI, 685; VIII, 685,
 692; IX, 455
 and orange yield, IV, 612
- Weeds—
 blackberry, *see* Blackberry as weed
 bracken, X, 1006, 1376, 1377
Cleidion hirta, VII, 1004
 control—
 biological, II, 254; III, 348; VII, 365,
 1004; X, 1005
 chemical, I, 256, 271; II, 143-145, 260, 261;
 IV, 79, 80, 303; V, 252, 400, 401; VI,
 352, 589; VII, 89, 1003; VIII, 461, 1076;
 IX, (503), 1252-1254; X, 617, 1007
 various methods, IV, 303; VI, 102; VIII,
 460, 829; IX, (503); X, 1005-1007, 1376,
 1377
 creeping thistles, II, 154
 fertilizer treatment of, IV, 303
 jointed cactus (*Opuntia aurantiaca*), II, 143
 killers, *see* control, chemical

SUBJECT INDEX

Weeds (continued)—

- lalang grass (*Imperata arundinacea*), VII, 1003
- oil treatment of, II, 261
- prickly pear, *see* Prickly pear
- problems in Australia, VI, 508
- puncture vine (*Tribulus terrestris*), II, 261
- sodium salt treatment of, I, 256; II, 143, 145; IV, 79, 80; VI, 589; X, 617
- of S. Africa, X, 127
- of S. Australia, X, 575, 576
- of sub-tropics, VIII, 829; IX, (1377)
- sulphuric acid treatment, II, 144; VI, 352
- of tulip and narcissus fields, X, 181

Weevils—

- control, X, (128)
- Rhynchosciara* spp., VI, 494
- sack-band, fauna in, IX, 106
- strawberry root, VI, 308; VIII, (467)

Weighing scales for field use, VII, 994, 995

Wenatchee-Okanogan district, fruit trees in, IX, 766

West African agriculture, IV, 305

West Indian inter-colonial fruit and vegetable conference (1933), IV, 146

West Virginia agric. Exp. Stat. Rep. 1936/38, X, 449

Western Australia fruit industry, VII, 16; VIII, 957; X, 43

Western Cape Province S. Africa, fruitgrowing in, X, 1305

Western Nutgrowers Ass. Proc. annu. Meet., 1933, IV, 309

Wetters for sprays, *see* Sprays, wetting agents

White rods of willows, III, 279

White Russia, introduction of food plants into, X, 1302

White sapote, *see* *Casimiroa edulis*

Whitewash for leaf hopper control, X, 1131

Whitewashing against frost injury, VII, 440, 442

Wholesale firms in N. York, X, 52

Whortleberries, *see* Bilberries

Wick culture for seedlings, VIII, 646

Wild fruits—

- breeding from, VIII, 667
- resources of Far East, X, (75)
- as rootstocks, VIII, 674
- in U.S.S.R., VIII, 357; IX, 29

Willow—

- branch retention or removal, VII, 529
- cricket bat, VII, 529, 530; VIII, 657; IX, 752
- growing for baskets, V, 328; VI, 8, 246
- manuring, IX, 752
- propagation, VIII, 2, 657
- white rod preparation, III, 279
- wood growth affected by dormant roots and buds, VII, 530

Wind—

- citrus affected by, *see* Citrus wind and Citrus windbreaks
- effect and soil moisture, VIII, 1146
- katabatic, and frost damage, IX, 87

Khamsin, VI, 476

- machines for frost protection, VII, 318; VIII, 1032; IX, 1343; X, 204

Windbreaks, III, 32; IV, 611; V, 386; VI, 65, 140-142; VII, 629, 726, 977; VIII, 73, 185, 1145, 1365; X, 1360

Windward Islands, developments in, III, 380

Wine—

- CO₂ detection in, IX, 674
- classification, X, 1243
- from direct producers, II, 40; VIII, 1017; X, 1245

Wine (continued)—

- dry matter determination, X, (1258)
- effect of—

manuring on, VIII, 67
vine characters on, V, 569
fruit, III, 420; IV, 142; V, 153, 157; VI, 607; VII, 510; VIII, 903; X, 744

improvement of sour, X, (1258)

iron in grapes and, VIII, 596; IX, 673

making, V, 154; VIII, 595; IX, 672

manganese content, X, 1245

maturing by sun's rays, X, 385

natural ageing of, IX, 1489

nitrogen content of, IX, 675

preservation by cold, IV, 295

production—

figures, VIII, 926; IX, 701

German problems, X, 80

sugar:alcohol ratio, IX, (677)

sulphuring, X, 1244

from tropical fruits, VII, 510

volatile acidity and fermentation, VIII, (1018)

Winter—

cold, necessity for, VIII, 387

hardiness—

correlation with fruit bud development, VIII, 729

of shrubs, V, 664

injury, *see* Frost damage

killing, due to artificial lighting, VII, 872

washing, *see* Sprays, dormant

Wire pots for plants, X, 620

Wisley—

apple trials, IV, 19; X, 46, 479

fruit trials, III, 48; IV, 18, 19; VI, 41;

X, 46, 479, 930, 973

pear pollination at, III, 464

Royal Horticultural Society's Gardens at, IV, 1

soft fruit trials, VI, 41

strawberry trials, III, 48; X, 930, 973

vegetable trials at, IV, 399

Wood—

for cider and juice containers, V, 515

diagnosis of nutrient needs, IV, 211

preservative, IV, 150; VI, 435; X, 1301

Woody plants—

low temperature injury, IX, 850

seed biology, X, 463

Woolly aphis (*Eriosoma lanigerum*), *see also* Aphides, woollyWoolly aphid (*Eriosoma lanigerum*)—

annotated bibliography on, VI, 982

stocks immune or resistant to, V, 233; VI, 491, 493, 982; VII, 902; VIII, 103, 447; IX, 485, 1140, 1240, 1535; X, 869, 870

Worcester Pearmain, fruit bud in, II, 130

Wound—

callus in apple, III, 328; IV, 376

callusing in lemon fruit affected by K, VI, 144

influence of growth substances on, IX, 735

gum in peaches and grapes, II, 141

hormone, traumatin, IX, 368

phellogen, differentiation of, X, 845

tree, treatment of, II, 13, 30; V, 28, 196; VI, 465; VII, 851; VIII, 48, 49, 994; X, 447

Wrappers for stored fruits in general, *see also under* particular fruits, V, 147; VI, 407, 956;

VII, 1061; VIII, 1259; IX, 456

Wye, journal of the South Eastern Agricultural College, I, 321; II, 95, 309; III, 427, 428;

IV, 145; V, 159; VI, 615; IX, 725

SUBJECT INDEX

Xanthium strumarium as oil plant, X, 1096

Xanthophyll—

and photoperiodism, VIII, 652
in pineapple, V, 299

Xanthosoma sagittifolium in U.S.S.R., VIII, 860

Xenia—

in apples, *see* Apple, metaxenia
in pears, IV, 336; VIII, 684

X-rays, *see* Rays, X

Xylamon wood preservative, IV, 150

Xylem, the path of salt movement, IX, 1138

Xylo vapour control of blue mould of tobacco, IX, 538

Xyloporosis in citrus, IV, 616; VI, 366; VIII, 1152

Xylotrechis quadripes of coffee, VII, 1024

Yakima, fruit trees in, IX, 765

Yalta, Nikita State Gardens, X, 416

Yams—

in Ceylon, VIII, 578; X, 1170
Dioscorea in the East, X, 1549

storage, VII, 483; X, 1235
in Trinidad, IV, 114

Yangona, wilt disease of, VI, 395

Yautia, *Xanthosoma* sp., X, 1473

Yearbook—

Calif. Avocado Ass. 1931 and 1939, II, 56;
X, 1558

Fruitgrs Fed. N.S. Wales for 1938-9, X, 442
Horticultural Educational Association, *see*
Scientific Horticulture

U.S. Dep. Agric. 1938 and 1939, VIII, 1375;
X, 789

Yeast—

growth substances, VIII, 324, 325

from orange rind, VIII, 294

Yebb nuts (*Cordeauxia edulis*), X, 1166

Yellow edge of strawberries, *see* Strawberry, yellow
edge

Ylang -ylang oil, X, 268

Youngberry, IX, 440, 830, 831

Yucca propagation, VIII, 207

Yuhikitsu, the (*Citrus oleocarpa*), VIII, 1126

Yuma Valley, pecan growing in, II, 155

"Z" test, Fisher's, III, 142

Zanzibar Dep. Agric. A.R. 1937-1939, VIII, 1377;
IX, 1543; X, (1589)

Zbarsky's bactericide, VIII, 1262; X, 316

Zebrina pendula, freezing experiment with, IX, 462

Zeolitic copper compounds as fungicides, VII, 910

Zinc—

and citrus growth and metabolism, IV, 615;
VI, 143; VII, 980; VIII, 182, 533

for damping off control, VIII, 744; IX, 476

deficiency—

in citrus, *see also* Citrus mottle leaf, IV, 615;
IX, 575, 845, 1341; X, 192

in peaches, VII, 612, 879; IX, 845

symptoms, X, 1351

in tomato, X, 1394

and little leaf, *see* Little leaf

microdetermination of, VII, 278

and pecan rosette, VI, 468, 469; IX, 845

a plant nutrient, VIII, 395, 649; IX, (1133)

in soil, chemical status of, X, 1356

sulphate—

affects arsenic injury, VI, 761

for bronzing in tung trees, V, 682

for brown rot gummosis in citrus, IV, 108

in peach sprays, VI, 80; VII, 99

Zizyphus jujuba, IX, 588, 1042

AUTHOR INDEX

- Aamodt, O. S., V, 330
 Abaya, F. Q., X, 678
 Abbiss, H. W., IV, 424
 Abbott, C. E., IV, 255; V, 259
 Abbott, O. D., IX, 1461
 Abdel-Salam, M. M., IV, 87, 88
 van den Abeele, —, VIII, 543; IX, 261
 Abel, F. A. F., IV, 476
 Acerete, A., V, 435, 439, 507; IX, 571
 Acharya, C. N., X, 234, (921)
 Ackerman, A. J., VII, 362
 Acree, F., VII, 91
 Acworth, R. W. H., IX, 932
 Adam, D. B., IX, 852
 Adam, W. B., V, 742; VI, 222, 798, 799; VII, 239; VIII, 909, 1316, 1320, 1323, 1325, 1326; IX, 1491, 1492, 1493; X, 756, 1525, 1526, 1528, 1529, (1542)
 Adamaman, F. O., X, 943
 Adams, J., VI, 766
 Adams, J. F., VI, 750
 Adams, M. L., VII, 787
 Adams, R. L., IX, 750
 Adamson, A. M., VII, 1006
 Adamson, N. J., IV, 374
 Adamson, R. M., VIII, 518
 Addicott, F. T., IX, (121)
 Addoms, R. M. H., III, 50
 Adriaens, L., VII, 470; IX, 1026
 Adriance, G. W., I, 169; X, 1265
 Adriano, F. T., IV, 136, 484; V, 57, 146
 Afify, A., III, 299
 l'Afrique Occidentale Française, Gouvernement Général de, V, 315
 Agati, J. A., V, 119; VII, 210; VIII, 249, 872; X, 148
 Ageev, L. A., X, 1145
 Agete, F., I, 295
 Agnew, E. L., X, 893
 Agricultural Advisers to Secretary of State, X, 1235
 Agricultural Departments and Agricultural Experiment Stations, see under State or Country concerned
 Ahmed, M. S., V, 716; VII, 207, 208
 Ainsworth, G. C., III, 512; V, 425; VI, 69; VII, 126; VIII, 150, 783, 1086, 1107; IX, 913, 1276; X, 1027, (1086)
 Aitken, H. C., VII, 1093
 Aiyar, S. P., VII, 1099
 Ajon, G., VII, 729, 812
 Akenhead, D., VI, 242; X, 793
 Akhurst, C. G., III, 98; IX, 274
 Akimoto, S., X, 1427
 Albaum, H. G., VIII, 623

- Alben, A. O., VI, 469; IX, 842
 Albert, D. W., VI, 843
 Albert, W. B., I, 273
 Albrecht, W. A., X, 1031
 Alcala, P. E., VI, 388
 Alcock, N. L., VI, 77
 Aldaba, V. C., II, 404
 Aldama, M. J., VI, 373
 Alden, C. H., X, (1378)
 Alderman, W. H., VI, 646, 706; VIII, 894; X, 1230
 Aldrich, W. W., II, 135, 239; III, 305; IV, 198; V, 190, 346, 348; VII, 845; IX, 1039, 1175; X, 1148
 Alexander, T. R., IX, 363
 Alexandrov, A. D., IX, 207, 570
 Alexandrov, S. V., VIII, 1082
 Alexeyev, V. P., VII, 429
 Algazin, V. S., X, 1399
 Algemeen Landbouw Syndicaat, Dutch East Indies, VIII, 1349; IX, 1532; X, 1569
 Alibert, H., IX, 286
 Alicebusan, L. A., VI, 381
 Allan, F. E., VIII, 174
 Allan, H. H., III, 291
 Allan, J. M., VIII, 1112; IX, 166
 Allard, H. A., V, 665; VIII, 125; IX, 743
 Allen, A. L., VI, 270
 Allen, C. E., IX, 308
 Allen, F. W., I, 37, 302; II, 230; III, 30; V, 366, 493; VI, 936; VIII, 890, 893; X, 1228
 Allen, H. W., X, 1002, (1378)
 Allen, M. W., VIII, 106, 451
 Allen, O. N., IV, 659; VII, 741
 Allen, R. J. L., X, (378)
 Allison, F. E., X, 830
 Allison, J. R., I, 269
 Allmendinger, D. F., X, 1017
 Allwright, W., X, 1242
 Allwright, W. J., IV, 262; V, 443; VI, 138; VII, 436, 437, 439; VIII, 179
 Almengor, A. A., X, 266
 Alnarp, X, 1552
 Alonso, C. S., V, 139
 Alstatt, G. E., IX, 1294; X, 162, 1073
 Altson, R. A., IV, 650
 Alvisi, S., IV, 157
 Amani, East African Agricultural Research Station, VI, 983; VII, 202, 1111; VIII, 304; IX, 1518, 1519
 Amatt, J., X, 859
 Amend, B. R., III, 150
 Amer, A. A., VI, 148
 American Potash Institute, X, 35
 Amiable, —, VII, 534
 Amlong, H. U., VIII, 5; IX, 3, 5, 1113
- Ammann, P., III, 560
 Amos, J., I, 42, 62, 163; VI, 440
 Anagnostopoulos, P. T., III, 37, 40, 133, 457; V, 7, 379, 456; VII, 36, 854; VIII, 196; IX, 1176, 1330, 1366; X, 758
 Anantanarayanan, K. P., X, 298
 Anantha Rao, N. K., IX, 397
 Andersen, E. M., IX, 912
 Anderson, A. J., II, 392
 Anderson, H. W., III, 196; V, 565; VI, 80; VII, 99; VIII, 744, 766
 Anderson, J. A. T., VI, 496
 Anderson, J. P., (850)
 Anderson, L. C., IV, 544; V, 584; VI, 695
 Anderson, L. D., VIII, (467)
 Anderson, M. S., VII, 802
 Anderson, P. O., VI, 65; X, 1360
 Anderssen, E. E., X, (1400)
 Anderssen, F. G., II, 241, 340; VII, 722, 970; IX, 572
 Andes, J. O., VIII, 579
 de Andrade, E. N., III, 553
 Andreichenko, D. A., VIII, 56, 410
 Andrejewa, E. D., VI, 123
 Andrews, J. K., X, (921)
 de Angeli, G., IV, 31; V, 566; X, 72
 Angell, H. R., IX, 166
 Angelo, E., V, 207; X, 515, (1158)
 d'Angremond, A., III, 108; X, 700
 Anisimov, N. I., X, (351)
 Anliker, J., IX, 58; X, 58
 Anon., I, 315, 344, 417; II, 1, 179, 185, 213, 292, 299, 300, 318, 322, 345, 354, 376, 395, 399, 400, 416; III, 66, 105, 110, 170, 371, 484, 556, 559; IV, 18, 316, 469, 593, 677, 680; V, 294, 295, 321, 327, 394, 402, 408, 410, 445, 495, 529, 632, 634, 667, 725, 739; VI, 64, 145, 156, 313, 315, 331, 332, 336, 345, 348, 353, 370, 398, 530, 635, 645, 647, 653, 656, 756, 757, 859, 967; VII, 5, 109, 132, 159, 237, 409, 630, 971, 1035, 1085; VIII, 32, 109, 128, 144, 148, 156, 160, 185, 200, 258, 356, 445, 453, 473, 474, 475, 481, 482, 487, 490, 493, 494, 528, 648, 993, 1043, 1095; IX, 221, 237, 255, 272, 412, 483, 493, 499, 534, 538, 598, 611, 659, 667, 780, 809, (866), 892, 974, 975, 1055, 1306; X, 110, 166, 169, 205, (226), 258, 275, 294, 384, 387, (388), 389, 486, 513, 544,

AUTHOR INDEX

- Anon. (*continued*)—
 545, 549, (555), 556, 564, 566,
 588, (598), 626, (657), 660, 708,
 717, 736, 836, 892, 913, 919,
 1015, 1052, 1087, 1389, 1425
 Anson, P. V., X, 262
 Anstead, R. D., VIII, 1213
 Antenor, C. S., X, (765)
 Anthony, M. V., VI, 76
 Anthony, R. D., II, 25, 235;
 VII, 624; VIII, 977; X, 502
 Anthony, W. G., X, 1343
 Antigua, VI, 984; VIII, (1378);
 X, (450)
 Antoniades, P., V, 37
 Antoniani, C., X, 1103
 Antonyuk, A., X, 1030
 Antoshin, S. T., I, 346
 Anufriev, M. F., IX, 1392
 App, F., VIII, 1309
 Appert, M., IX, 1043
 Appleman, C. O., VII, 496
 Appleman, D., IV, 434; V, 441;
 X, (1240)
 Apstis, J., VIII, 352
 Archbold, H. K., III, 462
 Archer, W. A., IV, 625
 Arendt, N. K., X, 482
 Arenz, B., IX, 1310
 Areshkina, L. Y., X, 1121
 Argles, G. K., VII, 1120; IX,
 568
 Arizona, VIII, (1378); IX, 1520;
 X, (1589)
 Ark, P. A., IV, 562; V, 393;
 VII, 345, 881; IX, (893),
 1225; X, 531
 Arkansas, X, 1553
 Arkell, H. S., IX, 135
 Armagh, Co., Committee of
 Agriculture, VIII, 1342; IX,
 1531
 Armstrong, G. M., I, 273
 Armstrong, S. F., X, 595
 Armstrong, T., X, 1370
 Armstrong, T. F., VII, 279
 Armstrong, W. D., VI, 644, 718
 Arnaud, G., VI, 79
 Arndt, C. H., V, 290
 Arndt, F. R., IV, 259; V, 87,
 555; IX, 1326
 Arnold, E. L., VI, 803; X, 1511
 Arnon, D. I., VIII, 649; IX, 742,
 (1133); X, 28, 33, 34, 1274
 Arnisdorf, A., X, 394
 Arroyo, R., X, 1535
 Arthur, J. M., II, 11, 104; III, 64;
 IV, 592; V, 317
 Artsikovsky, V. M., X, (1304)
 Asami, Y., II, 410; III, 295, 358;
 V, 16, 24; VII, 962, 989;
 VIII, 343, 381; X, 878
 Ashbel, D., VIII, 953
 Ashbel, R., III, 539
 Ashby, E., IX, 682
 Ashby, H., IX, 682
 Ashby, H. K., X, 663
 Ashby, M., X, 658
 Ashcroft, J. M., V, 601
 Ashley, T. E., II, 237; VI, 680
 Ashplant, H., I, 290
 Askew, H. L., IX, 565
 Askew, H. O., V, 385, 549;
 VI, 294, 466; VII, 63, 240,
 299, 323, 324; IX, 92, 1217;
 X, 960, 1353
 A.S.L.I.B., IX, 1521
 Assam, VIII, (1378); IX, (1544);
 X, 1554, (1589)
 Asseyev, G. D., VIII, 46
 Astor, Viscount, IX, 342
 Atanasoff, D., IV, 216, 494;
 V, 678
 Atkinson, F. E., II, 93; VII, 778;
 X, 602, 753, 754
 Atkinson, J. D., V, 384; VII, 62;
 VIII, 48, 399, 400; IX, 93, 761
 Atkinson, M., IX, 634
 Atwood, C. E., IV, 42
 Aubert, P., III, 146; V, 531;
 VIII, 359; IX, 459
 Aubin, L., VII, 302
 Aubréville, A., IX, 1037
 Auchinleck, G., I, 94
 Aucher, E. C., III, 308; IV, 333,
 447; V, 361
 Austin, M. D., II, 242; III, 34,
 341, 343, 361; IV, 415, 416;
 V, 236, 654; VI, 524; VII,
 694, 703; IX, 484, 505, 543,
 905
 Australia, C.S.I.R., V, 568, 668;
 VII, 524; VIII, 1343; IX, 691;
 X, 1270
 Avery, A. G., VIII, 322
 Avery, G. S., Jr., VII, 260;
 VIII, 621, 624; IX, 1119;
 X, (460), 815
 Avis, H. W., III, 252
 Aylen, D., VII, 800; X, 901, 1296
 Azienda Agraria Ravennate, VII,
 253
 v.B., IX, 331
 B. P., VIII, 951
 van Baalen, J., II, 77; IX, 273
 Baba, T., X, (1542)
 Babaleanu, P., IX, 61
 Babb, M. F., X, 594
 Babcock, W. G., V, 263; VII, 583
 Bach, W. J., III, 262; IV, 438
 Bacher, T., V, 415; IX, 921
 Back, E. A., VI, 319
 Bacon, A. L., VIII, 1035; X, 951
 Badachkoria, P. G., IX, 1338
 Badami, V. K., VI, 184; IX, 1024
 Badami, V. R. K., III, 570
 Badhwar, R. L., X, 675
 Baerg, W. J., X, 991
 Baes, R. P., X, 1208
 Bagalso, C. C., III, 106
 Bagenal, N. B., II, 131; IV, 315,
 325; VI, 31; VII, 551;
 VIII, 958; IX, 1511; X, 855
 Bagot, A. G. D., VII, 1016
 Bahgat, M., V, 723; VII, 708
 Bahrt, G. M., VIII, 1150
 Baibuz, V. P., IV, 184
 Bailey, C. F., VII, 325
 Bailey, C. R., IX, 931
 Bailey, J. E., III, 174
 Bailey, J. S., V, 202; VII, 620,
 888; VIII, 713; X, 512
 Bailey, R. M., V, 185

AUTHOR INDEX

- Bärner, J., **VIII**, 515; **IX**, 682
 Barnes, A. C., **V**, 86, 670; **VII**, 167
 Barnes, H., **IV**, 59; **V**, 728; **VI**, 150; **VIII**, 1244; **IX**, 1190; **X**, 653
 Barnes, H. F., **V**, 430; **X**, 176, (114)
 Barnes, S., **VIII**, 955
 Barnes, W. C., **VI**, 775
 Barnett, G. B., **IV**, 660; **VIII**, 1243
 Barnett, R. J., **X**, 909
 Barrett, C., **VI**, 871
 Barrett, M. S., **VI**, 671; **VII**, 282
 Barrett, O. W., **VI**, 891
 Barrett, W. E., **III**, 125
 Barrows, F. L., **VII**, 414
 Barss, A. F., **I**, 137
 Barthelet, J., **VI**, 79; **IX**, 755
 Bartholomew, E. T., **V**, 676; **VI**, 864; **VII**, 445; **VIII**, 187, 534; **IX**, 1353
 Bartlett, K. A., **X**, 1509
 Barton, L. V., **I**, 331; **II**, 361; **III**, 522; **IV**, 99; **V**, 636; **VI**, 812; **VII**, 313, 418; **IX**, 382, 1261, 1314; **X**, 805, 807
 Baruda, P. K., **X**, 252
 Bary, P., **VIII**, 1067
 Basinger, A. J., **VIII**, 186; **IX**, 208; **X**, 1135
 Basutoland, **IX**, (1544); **X**, 1555
 Batchelder, E. L., **VII**, 488
 Batchelor, L. D., **IV**, 107, 427; **VI**, 541; **IX**, 968
 Bates, G. H., **X**, 458
 Bates, G. R., **III**, 530, 533, 538, 597; **V**, 272; **VI**, 856, 952; **VIII**, 1155; **X**, (460), 1250
 Bates, H. B., **VIII**, 1178
 de la Bâthie, H. P., **I**, 192; **IX**, 1034
 Bathurst, A. C., **IV**, 256
 Batier, L. P., **I**, 136, 339; **III**, 153; **V**, 526; **VI**, 687, 698; **VIII**, 699, 735; **X**, 499, 874, 880, 891, 898, 918, (921)
 Batrakov, M. A., **VIII**, 777
 Baudin, M. R., **IV**, 155
 Bauer, A., **VII**, 187, 218; **VIII**, 563
 Bauer, R., **VIII**, 340
 Bauer, W., **IV**, 686
 Baugues, L. C., **VI**, 429
 Baumgart, S., **VI**, 366
 Baur, E., **I**, 330; **III**, 318
 Baur, K. E., **VI**, 297; **IX**, 1229
 Bausor, S. C., **IX**, 1109; **X**, 1066
 Bautista, B., **III**, 111
 Bawden, F. C., **IX**, 95
 Baynes, W. C., **X**, (921)
 Beacham, L. M., **X**, 757
 Beakbane, A. B., **III**, 166; **IV**, 360; **V**, 175, 179; **VI**, 44, 446; **IX**, 420, 440, 784, (830); **X**, 986
 Beal, J. M., **VIII**, (943)
 Beard, F. H., **II**, 264; **VI**, 480; **VII**, 697, 947; **VIII**, 791; **X**, 168, 1093
 Beare, J. A., **X**, 1223
 Beattie, J. H., **III**, 439; **VI**, 776; **VII**, 926; **VIII**, 117, 120, 478, 774, 1087, 1089; **IX**, 615, 902
 Beattie, W. R., **V**, 241, 534; **VII**, 926; **VIII**, 479, 1087, 1089
 Beaujouan, A. A., **X**, (1378)
 Beaumont, A., **V**, 82; **VI**, 357; **IX**, 1321, 1322
 Beaumont, A. B., **V**, 641; **VIII**, 496
 Beaumont, J. H., **II**, 236; **IV**, 343; **VIII**, 874; **IX**, 125, 1021; **X**, 265
 Beckenbach, J., **III**, 450
 Beckenbach, J. R., **IX**, 1278
 Becker, A., **VIII**, 156; **IX**, 1126
 Becker, J., **IV**, 587; **VI**, 943; **IX**, 67, 1318; **X**, (755)
 Becker, R. B., **IX**, 1507
 Becker, W. B., **IX**, 117
 Becker-Dillingen, J., **VI**, 37; **VII**, 114
 Beckett, E., **II**, 360
 Beckett, R. E., **V**, 714; **VIII**, 567; **IX**, 217
 Beckett, W. H., **II**, 2
 Beckley, V. A., **II**, 94, 388; **III**, 267; **VI**, 467, 683, 684; **VI**, 419, 610; **VII**, 228, 481, 1022; **VIII**, 462; **IX**, 610
 Beckwith, C. S., **IV**, 218; **VIII**, (467)
 Bedevian, A. K., **VI**, 974
 Bedford, C. L., **IX**, 666; **X**, 1239
 Beeley, F., **V**, 713; **VI**, 582; **VIII**, 1188, 1189; **IX**, 1425
 Beijer, J. J., **X**, 1403
 Beirnaert, A., **VI**, 185, 924; **VII**, 759
 Beke, A., **VIII**, 940
 Belgique, Ministère des Colonies, **VI**, 920
 Belgrave, W. N. C., **III**, 408; **IV**, 653; **V**, 486; **VII**, 760, 1044; **X**, 440
 Bell, H. P., **VII**, 271, 848; **VIII**, 384, 385; **X**, 63, 498
 Bellier, —, **IV**, 277
 Bellio, G., **VI**, 618, 619
 Belokhonov, I. V., **IX**, 42
 Belozersky, A. N., **X**, (1086)
 de Belsunce, G., **I**, 393; **X**, 273
 Beltran, E., **VII**, 49
 Ben-Amotz, Y., **IX**, 124, 582, 1352
 Benassi, F., **I**, 352
 Bender, H. B., **IV**, 501
 Benediktova, E., **X**, 133
 Benemerito, A. N., **VII**, 428; **IX**, 962
 Benjamin, M. S., **IX**, 1357
 Ben-Nerya, A., **VII**, 844
 Bennett, A. H., **IV**, 435
 Bennett, H. D., **III**, 178
 Bennett, J. P., **I**, 257; **IV**, 180; **IX**, 430
 Bennett, W. J., **IX**, 319
 Bensaude, M., **X**, 1130
 Bensemann, E. C., **I**, 353
 Benton, R. J., **I**, 81, 312; **II**, 52; **III**, 542; **V**, 93, 504; **IX**, 1335
 Benton, W. A., **X**, 84
 Benvenutini, L., **VIII**, 595, 597; **IX**, 674
 Berezova, E. F., **IX**, 20
 Berger, E. W., **V**, 722
 Berkeley, G. H., **III**, 189, 502; **IV**, 222, 565; **VI**, 748; **VII**, 67, 392, 937, 946; **IX**, 443; **X**, 1395
 Berkner, F., **X**, 828
 Berkut, O. D., **VII**, 824
 Berlin-Dahlem, **II**, 98; **IV**, 497.
See also Institut für Obstbau, Berlin
 Bermuda, **VIII**, 1344; **IX**, 1522
 von Bernegg, S., *see* Sprecher von Bernegg
 Bermon, G., **VII**, 330; **VIII**, (1018), 1038, 1041, 1052; **X**, 105, 938, 942, 1357
 Berry, W. E., **VII**, 590, 634; **VIII**, 704; **IX**, 782, 886; **X**, 925, 1016, 1317
 Bertraud-Rossi (Mme), **IX**, 879
 Bertrand, G., **VII**, 2
 Bertrand, H. W. R., **VI**, 383; **VIII**, 243; **IX**, 636; **X**, 1484
 Besoekisch Proefstation, *see* Proefstation
 Best, R. J., **VII**, 701; **VIII**, 488, 738; **IX**, 1297
 Betrem, J. G., **X**, 1192
 Bevan, W. H. C., **X**, 1386
 Beverley, G. W., **V**, 528
 Bewley, W. F., **I**, 254; **II**, 270; **III**, 61; **IV**, 84, 242, 586; **VI**, 103, 786, 787, 789, 822; **VII**, 958; **VIII**, 506, 1077, 1098, 1100; **IX**, 1285; **X**, 1024, 1025, 1026
 Beyer, J. J., **III**, 363
 Beyers, E., **VIII**, 1284; **IX**, 1464, 1481; **X**, 348, 349, 350
 Beyme, D., **VIII**, 30
 Bezemer, T. J., **IV**, 688
 Bhardwaj, N. K., **VII**, 904
 Bhat, S. S., **V**, 89, 90; **VI**, 593
 Bhowmick, H. K., **X**, 1164
 Biale, J. B., **VIII**, 931; **IX**, 970; **X**, 1233, (1240), 1518
 Bialobok, S., **VIII**, 691, 692
 Bialogłowski, J., **VI**, 830; **VII**, 713
 Bidner, N., **VII**, 889
 Biebel, J. P., **VII**, 275, 405
 Biggs, C. E. J., **I**, 388
 Bihar, **VIII**, 1345
 Bijhouwer, A. P. C., **I**, 41, 228; **VI**, 922; **VII**, 1041
 Billardon, F., **IV**, 295
 Bioletti, F. T., **IV**, 548; **IX**, 78
 Birch, H. F., **IX**, 1504; **X**, 1468
 Bird, M., **I**, 276
 Birk, H., **VIII**, 353
 Birkinshaw, F., **IX**, 299
 Birmingham, W. A., **III**, 198; **VI**, 728
 Bishop, H. J., **V**, 271
 Bishop, R. O., **II**, 183
 Bisson, C. S., **VII**, 498
 Blaauw, A. H., **V**, 79, 80; **VII**, 146; **VIII**, 164, 165, 166; **IX**, 185

AUTHOR INDEX

- Black, M. A., **IX**, 172
 Black, M. W., **V**, 364; **VI**, 467; **X**, 906
 Blackford, F. W., **VIII**, 1156
 Blackie, W. J., **VII**, 513
 Blackman, G. E., **IX**, 503
 Blackman, V. H., **IV**, 3, 317
 Blackmon, G. H., **V**, 38; **VII**, 732; **IX**, (184)
 Blair, D. S., **V**, 582; **VII**, 485, 831; **IX**, 50, 407, 443; **X**, 55
 Blair, G. Y., **V**, 332
 Blair, W. S., **V**, 635
 Blake, M. A., **VI**, 681; **VII**, 541, 550, 588; **VIII**, 690; **IX**, 1178; **X**, (921)
 Blakeslee, A. F., **VIII**, 322, 945
 Blanchard, V. F., **I**, 375; **II**, 364; **IV**, 433; **VII**, 441; **VIII**, 1145
 Blangstedgaard, **IX**, 69
 Blatt, R. J., **I**, 193, 373, 379; **II**, 57, 276
 Blattný, C., **IX**, 6
 Blinov, L. F., **VI**, 15; **VIII**, 988
 Bliss, D. E., **V**, 490, 604; **VI**, 394; **VIII**, 574, 575; **IX**, 292, 293
 Bloch, R., **IX**, 367
 Blodgett, E. G., **VI**, 306; **VIII**, 446
 Blodgett, F. M., **IV**, 566
 Blood, H. L., **VIII**, 489
 von Blücher, G. L. A., **VIII**, 1225
 Blumenthal, S., **VI**, 223; **X**, (1258)
 Blundell, J. E., **VI**, 8, 246
 Boam, J. J., **V**, 58, 59
 Boas, F., **VIII**, 340
 Bobb, A. C., **IX**, 1178
 Bobb, M. L., **X**, 561
 Bobiloff, W., **I**, 287, 397; **II**, 79, 186; **V**, 482
 Bobko, E. V., **VIII**, 1; **IX**, 746
 Bobokhidze, A., **VI**, 567
 Bobone, A. de L. A., **III**, 289; **IV**, 517
 Bocharova, S. I., **VI**, 501
 Bode, H. R., **VII**, 891; **IX**, 452, 465
 Bodenheimer, F. S., **III**, 539; **V**, 83; **VII**, 844, 985; **IX**, 563
 Bodenstein, J. C., **VII**, 246
 Bodine, E. W., **VII**, 640; **VIII**, 438
 Bogdanov, N., **X**, (664)
 Boggs, H. M., **VI**, 469
 Bogushevsky, P. N., **II**, 214
 von Boguslawski, E., **VIII**, 11
 Bohn, G. W., **X**, (1400)
 Böhnhert, E., **VI**, 126
 du Bois, C. W., **X**, 1512
 Bois, D., **I**, 1; **VII**, 1107
 Bois, E. J., **III**, 79; **X**, 582
 Boischot, P., **VII**, 105; **VIII**, 1079, 1113, 1114, 1115; **X**, 196
 Bolas, B. D., **IV**, 407; **V**, 247; **VI**, 797; **VIII**, 137; **IX**, 524, 1287
 Bold, H. C., **V**, 659
 Bolhuis, G. G., **IX**, 1049
 Bolin, D. W., **IX**, 1082
 Bollmann, A., **VII**, 1
 Bonacelli, B., **III**, 255
 Bond, T. E. T., **VI**, 251, 350
 Bondar, G., **VI**, 168; **IX**, 253
 Böning, K., **VII**, 110
 Bonnemaison, L., **X**, 1075
 Bonner, D. M., **VIII**, 323; **IX**, (1121); **X**, 453, (460)
 Bonner, J., **VIII**, 942; **IX**, 368, (372), 1114; **X**, 453, (460), 820, (1284)
 Bonnet, J., **I**, 270; **IV**, 542
 Bonney, V. B., **VII**, 504, 505
 Bora, M., **X**, 1443
 Borden, A. D., **V**, 53; **IX**, 120
 Boresch, K., **IX**, 94
 Borisoglebsky, A. D., **IX**, 28
 Borja, V., **III**, 111
 Börner, C., **IX**, 1240
 Boron Agricultural Bureau, **X**, 835
 Borovik, S. IX, (754)
 Borovik-Romanova, T., **IX**, (754)
 Borowicz-Kępkowa, A., **VIII**, 780
 Borsacov, V., **X**, 1436
 Borst, G., **IX**, 992
 Birthwick, H. A., **VIII**, 335; **IX**, (1125)
 Bortner, C. E., **X**, 1089
 Borysook, N. A., **I**, 235
 Borzini, G., **VIII**, 1055
 Bosc, M., **IV**, 294
 Boschin, G., **V**, 535; **IX**, 1144, 1145
 Bose, R. D., **IV**, 4; **VI**, 566
 Boshart, K., **VIII**, 122; **IX**, 1280
 Bosher, J. E., **VIII**, 519; **IX**, 183; **X**, 187
 Bosian, G., **IX**, 512
 Bosma, B., **IX**, 442, 1237
 Boswell, J. G., **V**, 468
 Boswell, V. R., **IV**, 236; **VI**, 776, 778, 779; **VII**, 924; **VIII**, 115, 133; **IX**, 615, 902; **X**, 1034, 1035
 Böttcher, F. K., **IX**, 127
 Bottini, E., **I**, 105, 108
 Bottomley, A. M., **VII**, 901; **X**, 611
 Botvinošky, V. V., **X**, 1104
 Bou Bono, B., **IX**, 966
 Boucher, J., **IX**, 548
 Bouffard, E., **VII**, 46
 Bould, C., **IX**, 1320 *
 Boulinger, G. A., **VII**, 410
 Boulle, M., **IX**, 1288
 Boulnois, Dr., **III**, 107
 Bourne, A. I., **X**, 512
 Bourne, C. L. C., **VI**, 401
 Bourne, J. B., **X**, 22
 Bousin, N., **IV**, 53
 Bouvier, P., **X**, 1003
 Bouwens, H., **VII**, 846
 Bovey, P., **IV**, 41; **VI**, 96; **VII**, 30; **VIII**, 448, 750; **IX**, 1236, 1245
 Bowden, R. A., **IX**, 365
 Bowers, F. A. I., **X**, 250
 Bowman, F. T., **II**, 331; **V**, 360; **VIII**, 687; **X**, 492
 Bowman, G. F., **I**, 403
 Bowman, J. J., **X**, 61, 978, 1312
 Boyce, A. M., **IV**, 574, 575; **V**, 405; **VI**, 312; **VII**, 984; **VIII**, 191, 1162; **IX**, 215, (1355); **X**, 1133
 Boyes, D., **III**, 62
 Boyes, W. W., **VIII**, 1279, 1281; **IX**, 1449; 1455, 1457, 1466, 1467, 1468, 1469, 1473; **X**, 318, 335, 341, 343, 352, 353
 Boyle, J. A., **IV**, 479
 Boyle, R. A., **I**, 348
 Boynton, D., **VI**, 687; **VII**, 558, 582; **VIII**, 42; **IX**, 422, 820, 821; **X**, 874, (921), 959
 Boysen Jensen, P., **VIII**, 329
 Bracci, F., **IV**, 690
 Bracewell, M. F., **I**, 303, 412, 414
 Bradfield, R., **IV**, 508
 Bradford, F. C., **I**, 154; **III**, 326; **VI**, 269, 658; **VII**, 875; **IX**, 1154, 1510; **X**, 1314
 Bradshaw, R. G., **VI**, 903
 Braid, K. W., **X**, 1376
 Brain, C. K., **IX**, 720
 Bramstedt, F., **IX**, 1240
 Branas, J., **VII**, 330; **VIII**, (1018), 1041, 1052; **X**, 103, 104, 105, 942
 Branas, M., **IV**, 367
 Brand, R., **IX**, 665
 Brandenburg, E., **X**, 470
 Brandon, D., **IX**, 1316
 Brandonisio, V., **IX**, 593
 Brandtsegg, O., **X**, 446
 Brannon, L. W., **IX**, 614
 Branscheidt, P., **I**, 140; **III**, 298, 467; **IV**, 366
 le Bras, J., **VIII**, 608
 Brase, K. D., **I**, 226; **II**, 16, 113; **IV**, 30, 327; **V**, 168; **VI**, 261; 442; **VII**, 833; **VIII**, 930; **IX**, 46, 787, 808; **X**, 867
 Brasher, E. P., **VII**, 370
 Bratley, C. O., **VIII**, 93; **IX**, 660, 1218; **X**, 731, (1240)
 Braun, E., **IX**, 24
 Braverman, J. B. S., **X**, 395
 Braverman, J. S., **I**, 362; **VII**, 961; **IX**, 1328
 Bravi, S., **X**, 1329
 Bredemann, G., **VII**, 949
 Bredo, H. J., **IX**, 1403
 Bregger, J. T., **II**, 10; **X**, 904
 Bregman, A., **X**, 1193
 Breider, H., **VIII**, 426; **IX**, 110
 Bremer, A. H., **V**, 245; **VII**, 1085; **VIII**, 476; **IX**, 1265; **X**, 446
 Bremer, H., **VI**, 527, 780
 Brenchley, G. H., **V**, 398
 Brenner, M. W., **VIII**, 898; **IX**, 648
 Brereton, W. le Gay, **I**, 203
 Breschke, K., **VIII**, 354
 Bret, J., **IV**, 214
 Breviglieri, N., **IX**, 837, (893), 916
 Brian, P. W., **VI**, 333, 523
 Briant, A. K., **VIII**, 264; **X**, 1169
 Brichet, J., **VII**, 709, 712, 724; **VIII**, 173; **X**, 213
 Brien, R. M., **IV**, 292; **VII**, 643; 939; **X**, 98, 170, 1074, 1364
 Brierley, P., **III**, 365, 527; **VIII**, 158; **X**, 1112
 Brierley, W. B., **IX**, 727
 Brierley, W. G., **I**, 7; **V**, 207; **VI**, 43; **VII**, 856, 857; **X**, 515, 1337

AUTHOR INDEX

- Briganti, G., **VIII**, 86
 Brillian, V. A., **VIII**, 181
 Brindley, T. A., **IX**, 158
 Brinkgreve, J. H., **III**, 406
 Brisk, L., **VIII**, 294
 Brison, F. R., **X**, 1265
 Brison, J. A., **III**, 482
 Bristol University, **III**, 429
 British Columbia, **II**, 260; **VI**, 985, 986; **VIII**, 1346, (1378)
 British Guiana, **VI**, 198; **VIII**, (1378); **IX**, (726); **X**, (450), 792
 British Honduras, **IX**, (726), 1523; **X**, 1556
 British Mycological Society, **V**, 516
 British Somaliland, **IX**, (726)
 British South Africa Company, **III**, 528; **VI**, 995; **VII**, 786; **X**, 773
 Britton-Jones, H. R., **III**, 224, 230; **V**, 269
 Brittain, W. H., **I**, 24; **III**, 463; **IV**, 21, 535
 Britton, J. E., **X**, 916, 1513, 1516
 Broadbent, H. R., **X**, 826
 Broadfoot, H. I., 301; **VII**, 233
 Brodsky, I., **VIII**, 864
 Brody, H. W., **IX**, 882; **X**, 893
 Broekema, C., **X**, 1522
 von Bronsart, H., **IX**, 388
 Bronson, T. E., **VIII**, 395
 Brooklyn Botanic Garden, **VII**, 1110
 Brooks, A. N., **IX**, 828
 Brooks, C., **III**, 123; **V**, 150; **VI**, 599, 957; **VIII**, 1049, 1296; **X**, 1221
 Brooks, F. A., **III**, 91; **IX**, 1344; **X**, 204
 Brooks, F. T., **V**, 398; **IX**, 949
 Brooks, H. E., **V**, 406
 Brooks, L. E., **VII**, 536
 Brooks, R. M., **X**, (950)
 Brown, A. B., **VI**, 250; **VIII**, 338
 Brown, A. C., **X**, (648)
 Brown, A. G., **VII**, 564; **IX**, 426; **X**, 495
 Brown, C. A. C., **III**, 349; **VII**, 807
 Brown, D. D., **I**, 82
 Brown, E. M., **X**, 27
 Brown, G. G., **I**, 229; **V**, 368
 Brown, H. D., **V**, 419
 Brown, H. E., **X**, 1372
 Brown, H. P., **IV**, 530; **IX**, 1222
 Brown, J. G., **VII**, 849; **VIII**, 1242; **X**, 900, 912
 Brown, N. A., **VII**, 266; **VIII**, 99, 331
 Brown, R. T., **X**, 1143, (1158)
 Brown, S. G., **II**, 411
 Brown, S. M., **IV**, 511
 Brown, W., **V**, 645; **VII**, 690; **VIII**, 504
 Brown, W. B., **VIII**, 889
 Brown, W. S., **VI**, 710; **VII**, 40; **X**, (950)
 Brown, W. T., **IX**, 18
 Browne, F. S., **X**, 519
 Broyer, T. C., **VI**, 621; **IX**, (369), 386
 Brubaker, R. W., **IX**, (547)
 Bruckmann, J. H., **VIII**, 1238
 Bruckner, V., **VII**, 242
 de Brujin, H. L. G., **IV**, 91
 Brun, B., **X**, 933
 Bruno, A., **VIII**, 302
 Bruno, F., **III**, 214
 Brunson, M. H., **X**, 1002
 Brunstetter, B. C., **I**, 68; **IX**, 1118; **X**, (921)
 Brusentsov, N. V., **VIII**, 782
 Bryant, L. R., **VII**, 21; **VIII**, 695; **X**, 872
 Bryden, J. D., **V**, 93; **VI**, 256; **VIII**, 1028, 1029; **X**, 215
 Bryner, W., **VIII**, 972; **X**, 488
 Brzezitsky, M. B., **IX**, (1377)
 Bua, G., **IV**, 579
 Buchanan, R. E., **VIII**, 1355; **IX**, 705
 Buckley, F. E., **X**, 1495
 Buckley, T. A., **V**, 318, 686; **VII**, 516; **IX**, 334
 Bucksteeg, **W**, **IX**, 1252; **X**, 542
 Budagovsky, V. I., **IX**, 416
 Buddin, W., **VII**, 425; **IX**, 558, 1321
 Bugini, F., **VIII**, 980; **X**, 62, 65, 887
 Buitenzorg, Departement van Economische Zaken, Dienst van den Landbouw, **X**, (1214)
 Bunce, S. C., **VI**, 435
 Bunting, B., **I**, 189; **VI**, 589
 Bunyard, E. A., **IV**, 15; **VI**, 9; **X**, 48
 Burchardt, H., **V**, 699
 Burger, I. J., **I**, 329; **VII**, 502
 Burgess, A. F., **IX**, (506)
 Burgess, A. H., **VI**, 516, 517; **VII**, 698
 Burgess, I. M., **V**, 185
 Burk, E. F., **VI**, 805
 Burke, E., **II**, 142; **IV**, 35
 Burkholder, C. L., **VII**, 625; **X**, 891
 Burkholder, P. R., **VIII**, 621, 624
 Burkhill, I. H., **X**, 1549
 Burlison, W. L., **X**, 1078, (1086)
 Burma, II, 73; **VIII**, (1378); **IX**, (726); **X**, (313), (450), 1557
 Burmistrov, A., **VIII**, 28
 Burnett, F., **IV**, 663
 Burnett, G., **VI**, 114
 Burns, M. M., **IX**, 201, 982
 Burns, W., **X**, 1213
 Burpee, D., **VI**, 354
 Burrell, A. B., **II**, 118, 121; **IV**, 352, 568; **VII**, 617; **VIII**, 734; **X**, 471, 955
 Burrell, P. C., **X**, 1060
 Burret, M., **IX**, 285, 1434
 Burrier, A. S., **IV**, 57; **IX**, 86
 Burton, C., **VIII**, 283
 Bush, C. D., **VIII**, 1023
 Bushey, D., **VIII**, 956
 Buslova, E., **X**, 842
 de Bussy, I. J. le Cosquino, **VII**, 128
 Butler, L., **VI**, 342
 Butler, O., **VII**, 372
 Butterfield, H. M., **IV**, 543
 Butterfield, N. W., **X**, 819
 Buxton, B. H., **III**, 129
 Buzin, N. P., **X**, (83)
 Byers, H. G., **VII**, 13; **IX**, 26
 Bykovsky, V. Y., **X**, 134
 Byrne, J., **VIII**, 596
 Bystrov, A. A., **IX**, 899
 C., **X**, 1456
 C., H. B., **V**, 312
 C., P., **X**, 155
 C., R.C., **VII**, 383
 Cabab, A. C., **VIII**, 527
 Cabezon, A. G., **V**, 107
 Cahan, J. F., **VI**, 244
 Cahn, R. S., **V**, 58, 59
 Cailloux, M., **VIII**, 428
 Cain, J. C., **VIII**, 282
 di Cairano, V., **VIII**, 542
 Cairns, H., **VIII**, 899
 Calder, R. A., **III**, 182; **VII**, 120
 Caldwell, J., **V**, 73; **VI**, 107; **VIII**, 800
 Caldwell, J. S., **III**, 419, 609; **IV**, 179; **V**, 375; **IX**, 616,
 Caldwell, N. E. H., **VIII**, 1251; **IX**, 298
 Calfee, R. K., **VII**, 933
 Calidiore, E., **X**, 631
 California Agricultural Experiment Station, **X**, 1524
 California Avocado Association, **II**, 56; **V**, 109; **X**, 1558
 California Citrograph, Editorial, **VII**, 974
 California Fruit Growers Exchange, **III**, 221; **VII**, 982
 Calinian, M. R., **V**, 118; **IX**, 1009, 1388; **X**, 680
 Calkins, G. R., **III**, 118
 Callmar, G., **V**, 178; **VII**, 563
 Calma, V. C., **X**, 289
 Calvino, E. M., **IX**, 601, 734
 Calvino, M., **VII**, 1009; **IX**, 282, 1325; **X**, 247, 274
 Camargo, F. C., **X**, 302
 Cambridge County Agricultural Education Committee, **VII**, 531
 Camenzind, P., **VIII**, 159
 Cameron, A. E., **X**, 137
 Cameron, C., **X**, 1435
 Cameron, E. J., **VII**, 1104
 Cameron, S. H., **IV**, 434; **V**, 441; **VI**, 836, 873, 874; **VII**, 719; **VIII**, 1137, 1170; **IX**, 992
 Cameron Brown, C. A., **I**, 220
 Camp, A. F., **II**, 51; **III**, 367; **V**, 95, 156, 677, 682; **VII**, 707; **VIII**, 280; **IX**, 575, 976, 1341
 Campbell, B. A., **X**, 920, 1334
 Campbell, I. W., **X**, 310
 Campbell, J. A., **I**, 111; **IX**, 171
 Campbell, L., **VI**, 118
 Campo, J. H., **V**, 149
 Canada, **IX**, 21, 135, (689), 1525; **X**, 414, (431), 1559, 1560, (1587)
 Canada, Minister of Agriculture, **VIII**, 306; **IX**, 688; **X**, 1561

AUTHOR INDEX

- Canada, National Research Council, **VIII**, 305, 1347; **X**, (431), 432, 780, 1266
 Canagaratnam, C., **VII**, 758
 Capilan, S., **X**, 1542
 Capt, E., **IX**, 673, 674
 Capucci, C., **VIII**, 1009, 1014; **IX**, 81; **X**, 82
 Cardinell, H. A., **V**, 191; **VII**, 678; **IX**, 1154, 1156; **X**, 861
 Carlblom, A. I., **VIII**, 794
 Carmin, J., **VI**, 862
 Carne, W. M., **I**, 233; **II**, 200; **III**, 605; **IV**, 478; **V**, 44, 494, 732; **VI**, 206, 208, 209; **VIII**, 583, 584; **X**, 727
 Carnegie Institute of Washington, **IX**, 690; **X**, 1562
 Carolus, R. L., **V**, 638; **VI**, 772; **IX**, 1191
 Carpenter, P. H., **VIII**, 854; **X**, 794
 Carrante, V., **I**, 364; **II**, 109; **IX**, 977, 978
 Carrier, M. C., **VII**, 533
 Carrière, E., **IV**, 294
 Carroll, J., **V**, 51
 Carter, R. H., **IV**, 73
 Carter, W., **VIII**, 266; **IX**, 1235, 1440
 Carton, P., **III**, 379
 Caryl, R. E., **VII**, 431
 Casale, L., **VI**, 733
 C.A.S.B., **IX**, (27), (128), (136), (325)
 Casella, D., **I**, 337, 365, 378; **III**, 215, 480, 529, 536, 537, 541; **V**, 6, 10, 106; **X**, 522
 Cassil, C. C., **IX**, 125
 Cassone, S. A., **VII**, 992
 Cass-Smith, W. P., **X**, 981
 de Castella, F., **P**, 352, 353; **III**, 320; **IV**, 55; **V**, 377; **VI**, 50, 287, 753
 Castelli, E., **VII**, 475; **IX**, 1372
 Castelli, T., **X**, 1081
 Castets, G., **X**, 1018
 Castorina, S., **IX**, 1498
 Casupang, O. M., **IX**, 1012
 Cation, D., **VI**, 75
 Caulfield-Kelly, E., **X**, 1540
 van Cauwenbergh, E., **VI**, 648; **VII**, 837; **VIII**, 18
 Cawthon Institute, **VIII**, 1348; **IX**, 1526
 Cayeux, H., **VI**, 125; **VII**, 139
 Cayley, D. M., **II**, 274; **VIII**, 788
 Cayzer, L. S., **II**, 246
 Celichowski, K., **IX**, 1135
 Celino, M. S., **III**, 114; **IV**, 641; **IX**, 1010
 Celmer, R. F., **VIII**, 902
 Central Provinces, India, Director of Agriculture, **V**, 166
 Ceres, **VIII**, 502
 Ceroni, R. R., **II**, 347
 Ceylon, **II**, 419; **VII**, 1112; **VIII**, 570, 832, 834, 835, 839, 844, 861, 876, 878; **IX**, 1002, 1003, 1299, (1384), 1527; **X**, 401, 1564
 Ceylon, Coconut Research Scheme, **VI**, 987; **IX**, 1528, 1529, (1544); **X**, 1563
 Ceylon, Division of Mycology, **VI**, 883
 Ceylon, Journal of Science, **X**, 430
 Ceylon, Rubber Research Board, **IV**, 505; **VII**, 1116; **VIII**, (1378); **X**, (450), 1565
 Ceylon, Tea Research Institute, **VIII**, 315, (1378); **X**, 1441, 1566, 1567
 Chaboussou, F., **IX**, 1241
 Chabrolin, C., **X**, 1150
 Chace, E. M., **I**, 77, 419
 Chadwick, L. C., **II**, 111; **IV**, 25; **VII**, 954; **VIII**, 956; **IX**, (1121); **X**, 798
 Chailakhyan, M. K., **IX**, 7, 8, 9, 10, 13
 Chakravarthy, J. N., **VII**, 742
 Challis, B. G., **X**, 1430
 Chamberlain, E. E., **IV**, 411; **V**, 215, 248; **VII**, 130, 396, 939; **VIII**, 152; **X**, 610, 1074
 Chamberlain, F. S., **IX**, (547)
 Chamberlain, G. C., **VI**, 74; **IX**, 96
 Chamindare, R., **IX**, 548
 Chandhuri, H., **VI**, 552; **VII**, 1017
 Chandler, F. B., **X**, (950), 1341
 Chandler, R. F., **IV**, 343, 344; **VI**, 692
 Chandler, S. C., **VIII**, 1062; **X**, (1378)
 Chandler, W. H., **II**, 240, 342; **IV**, 354; **V**, 187, 587; **VI**, 736; **VII**, 321; **VIII**, 387, 395
 Chang, W. T., **V**, 537, 548; **VIII**, 31
 Chang-Chih Hu, *see* **II**
 Chapman, G., **X**, 1122
 Chapman, H. D., **IV**, 614; **VIII**, 184, 947, 1141; **X**, 192, 193, 636
 Chapman, P. J., **IX**, 1243
 Chappellier, A., **X**, 1004
 Charavanapavan, C., **VIII**, 573
 Charles, V. K., **III**, 515
 Charley, N. G., **IX**, 256
 Charley, V. L. S., **I**, 153; **III**, 420, 421, 422, 423; **IV**, 142, 297, 487, 488; **V**, 512, 513, 514; **VI**, 11, 604, 605, 606, 607, 608; **VII**, 777, 781, 782; **VIII**, 288, 903, 904, 905, 906, 907, 908; **IX**, 687, 1075, 1076, 1077, 1078, 1484, 1487; **X**, 857, 1246, 1247, 1248
 Charter, C. F., **VII**, 995
 Chassant, M., **X**, 1533
 Cheal, W. F., **VIII**, 440, 442; **IX**, 824; **X**, 975
 Cheema, G. S., **II**, 403; **VI**, 584, 593; **VII**, 492
 Cheesman, E. E., **II**, 85, 197, 285, 389; **III**, 121, 254, 576; **IV**, 273, 458, 664; **V**, 468, 726; **VI**, 571, 572, 882; **VIII**, 263; **IX**, 1008; **X**, 1458
 Chek, G., **X**, 552
 Chelvanayagam, A. V., **VI**, 158; **VIII**, 237
 Chen, S. H., **V**, 736
 Cherian, M. C., **X**, 298
 Chernenko, S. F., **VIII**, 960
 Chernova, A. K., **X**, 624
 Cheshunt, **II**, 308; **IV**, 496; **VI**, 988; **VIII**, 116, 151
 Chester, K. S., **VIII**, 88
 Chevalier, A., **I**, 91, 185; **II**, 189, 191; **III**, 94; **IV**, 475; **VI**, 136, 189, 196, 382; **VII**, 206, 216; **VIII**, 554, 555; **IX**, 227, 248, 1022, 1050; **X**, 507, 587, 705
 Chevalier, G., **VII**, 723
 Cheyne, O. B. M., **X**, 711
 Chiaramonte, A., **V**, 609
 Chikladze, V. T., **VIII**, 198, 1026
 Child, A. M., **IX**, 665
 Child, R., **VII**, 775; **VIII**, 295; **X**, 235, 400, 711, 760, 1256
 Childers, N. F., **VI**, 674, 796; **VII**, 569; **VIII**, 38; **IX**, 882; **X**, 893
 Childs, L., **I**, 229; **VIII**, 95
 Chima, I. S., **II**, 151
 Chipman, G. F., **IV**, 11, 23
 Chisholm, J. S., **IX**, 546
 Chittenden, E., **VI**, 466; **VIII**, 45, 123, 398; **IX**, 92; **X**, 472, 960
 Chittenden, F. J., **IV**, 1; **X**, 22
 Chittenden, R. J., **IV**, 120
 Chitwood, B. G., **X**, 1048
 Chizhov, S. T., **IX**, (1515)
 Chkhaidze, I. X., 1174
 Chkhikvishvili, V., **VII**, 881
 Cholodny, N. G., **X**, 457, 810, 1278
 Chomentofsky, U. J., **I**, 121
 Chona, B. L., **III**, 582
 Choppin de Janvry, J., **IX**, 192
 Chopra, R. N., **X**, 675
 Chorin, M., **X**, (165)
 Chouard, P., **VII**, 4, 804; **VIII**, 949, 1118; **IX**, 728, 729, 730, 731, 733, 738, 944, 945, 946
 Chouet, E., **VIII**, 144
 Chow, C. T., **VII**, 989
 Chowen, W. F., **X**, 920
 Christensen, B. E., **X**, 1225
 Christensen, E., **VII**, 589
 Christiansen, J. E., **VI**, 39
 Christidis, B. G., **X**, 24
 Christie, A. W., **I**, 20
 Christie, J. R., **IV**, 68; **VIII**, 1064
 Christien, —, **IV**, 168
 Christodoulou, P., **V**, 22
 Christoff, A., **V**, 212; **IX**, 477
 Christopher, E. P., **VI**, 762; **VII**, 860, 932; **IX**, 1303; **X**, 917
 Chroboczek, E., **VII**, 112
 Chronica Botanica, **V**, 323; **VI**, 614; **X**, 1550
 Chugunin, Y. V., **IX**, 111, 683
 Chulkin, M., **X**, 622
 Chulkin, V., **IX**, 605
 Church, C. G., **I**, 77, 179; **IV**, 106; **V**, 358
 Cidrais, J., **X**, 1252

AUTHOR INDEX

- Ciferri, E., **VIII**, 576
 Ciferri, R., **VIII**, 559; **X**, 1014, 1506, 1519
 Citrus Experimental Station, Mazoe, **III**, 528; **VI**, 995; **VII**, 786; **X**, 773
 Citrus Preservation Technical Committee, **VIII**, 188
 Claborn, H. V., **VI**, 120
 Claes, F., **IV**, 287
 Clague, J. A., **IV**, 673; **VI**, 962; **VII**, 1096
 Clapp, L. E., **X**, (1304)
 Clara, F. M., **VIII**, 267
 Clark, A. F., **VII**, 365
 Clark, H. D., **VI**, 827
 Clark, H. E., **IX**, 1061
 Clark, J. A., **X**, 1306
 Clark, J. H., **IV**, 364; **VII**, 876; **VIII**, 714; **IX**, 447; **X**, 924, (950)
 Clark, L. H., **I**, 405
 Clark, S. W., **III**, 370
 Clark, V. I., **VII**, 629
 Clark, W. A., **IV**, 100
 Clark, W. G., **IX**, (369)
 Clarke, G. H., **X**, 575
 Clarke, S. H., **IX**, 377
 Clarke, W. C., **VII**, 469
 Clarke, W. S. Jr., **II**, 235; **VIII**, 975
 Clarou, C., **VIII**, (1018)
 Clausen, C. P., **III**, 377
 Clawson, O. T., **VI**, 292
 Clay, S., **V**, 652
 Claypool, L. L., **II**, 124, 226; **V**, 21, 556; **VI**, 696; **X**, 1219
 Clayton, E. E., **VIII**, 773; **IX**, 537, 540
 Cleare, L. D., **IV**, 656; **X**, 1431
 Clements, H. F., **VI**, 23; **VIII**, 405
 Cleverger, J. F., **VI**, 233.
 Clore, W. J., **VI**, 762; **VII**, 619; **VIII**, 992
 Clothier, G. E., **VI**, 477; **IX**, 847
 Clothier, J. N., **VIII**, 831
 Clum, H. H., **VIII**, 643
 Cobb, A. J., **I**, 415
 Cochran, F. D., **X**, (1114)
 Cochran, G. W., **VI**, 713
 Cochran, H. L., **IV**, 405; **V**, 649; **VI**, 340, 769; **VII**, 683; **VIII**, 1110; **X**, 140, 1388
 Cochran, L. C., **VI**, 335; **VIII**, 1042
 Cochran, W. G., **VI**, 641; **VIII**, 841
 Cockerham, K. L., **IX**, (547)
 Cocoa Association of London, Ltd., **II**, 177
 Cocoa Research Station, Tafo, Gold Coast, **IX**, 699
 Coconut Research Scheme, Ceylon, **VI**, 987; **IX**, 1528, 1529, (1544); **X**, 1563
 Coe, F. M., **III**, 443
 Coeytaux, H., **X**, 1150
 Cohen, M., **V**, 413; **VIII**, 1108
 Coit, J. E., **II**, 171; **VI**, 877, 879; **VIII**, 1171
 Colby, A. S., **IV**, 56; **V**, 397, 565; **VII**, 41, 42, 855; **VIII**, 722; **X**, (950)
 Colby, H. L., **III**, 157, 456; **VI**, 441
 Cole, C. E., **VI**, 36, 321
 Cole, J. R., **IV**, 224; **V**, 219; **VIII**, 89
 Cole, W. R., **IX**, 1057
 Coleman, L. C., **III**, 239
 Colenbrander, G. H., **X**, 1198
 Colhoun, J., **VIII**, 392, 586
 Collado, T. G., **VII**, 452
 Collins, J. F., **V**, 28
 Collins, J. L., **I**, 406; **V**, 730; **VII**, 766; **X**, 1211
 Collison, R. C., **III**, 303, 470, 471; **V**, 26, 43; **VI**, 248, 695; **VIII**, 393; **X**, 1325
 Colorado, X, (1589)
 Comboni, S., **VII**, 943
 Comin, D., **VII**, 1050
 Comité Pomologique (Morocco), **X**, 44
 Commissioner of Agriculture, I.C.T.A., Trinidad, **IX**, (1544)
 Committee on Chemical Methods, **X**, 464
 Compere, H., **X**, 225, (226)
 Compton, C., **VII**, 714, 718
 Compton, C. C., **IX**, 545
 Compton, O. C., **VII**, 158
 Condelli, F., **IV**, 300
 Condit, I. J., **II**, 332; **III**, 116; **IV**, 516, 556; **X**, 413, 1206
 Confederazione Fascista dei Lavoratori dell'Agricoltura, **VIII**, 919
 Confederazione Nazionale Fascista Agricoltori, **I**, 425
 Connors, C. H., **VII**, 550
 Corrotte, L., **V**, 291
 Constantin, J., **V**, 68
 Cook, M. T., **V**, 388; **VI**, 66, 67; **VIII**, 85, 87, 544; **X**, (1378)
 Cook, O. F., **VI**, 174, 177, 591
 Cook, R. C., **II**, 6
 Cook, R. L., **X**, 581
 Cook, W. H., **VIII**, 461
 Cooke, F. C., **I**, 183, 402; **II**, 204; **III**, 250; **IV**, 655; **V**, 320; **VI**, 392, 412, 971; **VII**, 776; **VIII**, 607; **X**, 399
 Cooley, J. S., **X**, 541
 Cooley, L. M., **VI**, 298; **VII**, 87, 88, 639
 Coolhaas, C., **VII**, 184
 Coombes, A. N., **IX**, 300
 Coombs, A. V., **V**, 3
 Coons, G. H., **VIII**, 84
 Cooper, C. E. B., **X**, 382
 Cooper, E. R., **X**, 732
 Cooper, G. P., **II**, 87
 Cooper, H. R., **I**, 188, 387; **III**, 103; **IX**, 1019; **X**, 256, 1444
 Cooper, J. F., **VIII**, 826
 Cooper, J. R., **VII**, 680; **VIII**, 682; **IX**, 1201; **X**, 1380
 Cooper, St. G. C., **X**, 1469
 Cooper, T. P., **IX**, 785; **X**, 1313
 Cooper, W. C., **VI**, 4, 406; **VII**, 257; **VIII**, 318, 937; **X**, 1137, 1212
 Cope, F. W., **VIII**, 1218; **IX**, 1406, 1407, 1408; **X**, 1459, 1460, 1461
 Cope, J. A., **I**, 255
 Copeland, E. B., **VII**, 452
 Copeman, P. R. v.d. R., **I**, 79; **II**, 55; **IV**, 436; **VI**, 547
 Copisarow, M., **VI**, 202, 405
 Copp, L. G. L., **VIII**, 123
 Corbett, G. H., **II**, 405; **VI**, 905; **IX**, 235
 Corbett, W., **IX**, 552
 Cordiner, H. B., **VI**, 765; **X**, 1041
 Cormack, A. B., **V**, 611; **VIII**, 202
 Cormack, R. G. H., **VIII**, 338
 Cornford, C. E., **VII**, 622; **IX**, 87, 88, 457, 458
 Cornu, C., **VIII**, 1067; **X**, 569
 Cosmo, I., **V**, 570
 Costantino, G., **V**, 104; **VII**, 731, 983, 991; **VIII**, 753, 754
 Costa Rica, **IX**, 1530
 Coste, R., **VI**, 375
 Coster, C., **III**, 6, 587; **VIII**, 1186
 Cotterell, G. S., **X**, 1422
 Cottier, W., **V**, 407, 432; **VI**, 121
 Cotton, R. T., **VI**, 319
 Couderc, M., **VII**, 72
 Coulter, R. W., **X**, 998
 Countryman, M. C., **III**, 328
 County Armagh Committee of Agriculture, **VIII**, 1342; **IX**, 1531
 Coupan, —, **VII**, 351
 Courcelles, J., **VII**, 1018
 Coville, F. V., **VIII**, 57
 Coward, K. H., **VI**, 231
 Cowart, F. F., **VI**, 674, 679; **IX**, 799
 Cowie, G. A., **X**, 1042
 Cox, J. A., **VII**, 74; **IX**, 485, 1239; **X**, (1378)
 Cox, T. R., **X**, 838
 Coyle, V., **I**, 424
 Crafts, A. S., **VIII**, 113; **IX**, 386, 747, 1103, 1254
 Cramer, P. J. S., **I**, 289; **III**, 404; **IV**, 470, 638, 644; **V**, 711
 Crandall, F. K., **IV**, 402; **IX**, 1277; **X**, 1064
 Crane, H. L., **V**, 40, 577, 578; **VI**, 725; **VIII**, 68; **IX**, 844
 Crane, M. B., **L**, 413; **III**, 263; 269; **IV**, 159; **V**, 158, 336; **VI**, 42, 491; **VII**, 564, 902; **VIII**, 378; **IX**, 426, 1150, 1151; **X**, 157, 483, 922, 923, (1304)
 Crang, B. A., **X**, 1251
 Crawford, C. L., **VI**, 926; **VII**, 761; **VIII**, 877; **X**, 1148
 Crawford, M. E. F., **IV**, 473
 Creighton, H. B., **VIII**, 621, 624; **IX**, 1119
 Cremer, M. C., **X**, 1404
 Cressman, A. W., **V**, 54; **VI**, 101
 Crist, J. W., **I**, 339; **X**, 53, 54,
 (850)

AUTHOR INDEX

- Croce, F. M., I, 264; II, 339, 356; IV, 47; V, 29; X, 392
 Crocker, W., I, 331; II, 108; III, 521; V, 520; IX, 374, 381
 Cronk, J., X, 863
 Cronshay, J. F. H., X, 277
 Crosier, W., IX, (938)
 Cross, P. E., VII, 658; VIII, 508
 Cross, W. E., VIII, 847; X, 1536
 Croucher, H. H., V, 140, 671; VI, 930; IX, 1005; X, 1209
 Crous, P. A., V, 450; VIII, 535; X, 359
 Crowdny, S. H., X, 714
 Crowley, D. J., III, 167; VIII, 421
 Crowther, E. M., II, 105; X, 1487
 Croxall, H. E., IX, 864, 895; X, 19, 808, 1084
 Cruess, W. V., I, 211, 311; V, 154; VII, 500, 503, 507; VIII, 596, 902; IX, (1497); X, 210, 1216
 Cruz, E. E., VIII, 219
 Cruz-Monclova, H., X, 1437, 1492
 C.S.I.R., Australia, V, 568, 668; VII, 524; VIII, 1343; IX, 691; X, 1270
 Csorba, Z., III, 193
 Cullinan, F. P., II, 223; VII, 850, 879; VIII, 21; IX, 817; X, 899, (921), 965
 Culpepper, C. W., V, 375, 426; VII, 34; VIII, 593, 885, 911, 1277; IX, 612, 616; X, 146, 147
 Culver, L. B., X, 77
 Cumings, G. A., VI, 800
 Cummings, M. B., IV, 521; VII, 280; X, 1324
 Cummings, R. W., VIII, 43
 Cunningham, C. R., X, (1086)
 Cunningham, G. H., III, 507; IV, 233
 Cupery, H., X, 1007
 Cupples, H. L., VII, 169
 Currence, T. M., III, 437; IX, (893)
 Currie, G. A., VI, 508
 Curtis, D. S., IX, 149
 Curtis, K. M., IV, 563; VIII, 1112; X, 606
 Curtis, O. F., I, 59; VI, 433; VIII, 645; IX, 462
 Curtis, R. C., VIII, 905
 Curtler, E. A., I, 284
 Cutright, C. R., X, (1378)
 Cyprus, VIII, 659, 1057; IX, 209. (726), X, 433
 Dafert, O., VIII, 156
 Dagys, J., VIII, 324, 325
 Dahl, C. G., I, 35, 122; VI, 20, 438; VII, 545
 Dahle, H. E., IX, 264
 Daldy, Y., X, 1294
 van Dalzen, J. W., IX, 333
 Dalgano, W. T., VI, 887
 Dallas, W. K., V, 674; VI, 365, 540; VII, 349; X, 1074
 Dalmasso, G., I, 18, 19; IV, 554
 Dalziel, J. M., VII, 1109
 Dame, F., VIII, 1045; X, 107
 Dameron, W. H., X, 223
 Damodaran, M., VII, 517
 Daniel, D. M., IV, 74; VII, 74
 Daniel, E. P., II, 267; III, 55; VIII, 291
 Dankov, A. I., VIII, 172
 Darbyshire, F. V., III, 1, 129; IV, 399
 Dares, T., X, 941
 Darken, M., VII, 814
 Darlington, C. D., II, 305; IV, 163
 Darlington, H. R., IV, 94
 Darlington, H. T., X, 77
 Darnell, A. W., VII, 423
 Darrow, G. M., I, 9, 357; II, 33, 147, 263; III, 49, 316, 477; IV, 49, 50; V, 32, 204; VI, 713; VII, 861; VIII, 50, 52, 53, 58, 420; IX, 825, 826; X, (950)
 Dartois, E., X, 1167
 Daskaloff, C., VII, 382
 Dastur, R. H., III, 461; VII, 805
 Date Growers, California, IX, 692
 Davenport, A. B., I, 201
 Davey, A. E., IV, 66
 Davey, M., II, 335
 Davey, W. H., I, 180
 David, P. A., IX, 1387
 Davidis, G., IX, 258
 Davidson, J., II, 370; V, 631; VI, 314
 Davidson, O. W., IV, 351; V, 183; VII, 588; VIII, 690
 Davidson, R. W., X, 541
 Davidson, W. D., IX, 507
 Davies, C., IV, 385, 386; V, 606; VII, 95, 665; IX, 502; X, 1374
 Davies, D. L. G., IX, 936
 Davies, J. L., III, 354
 Davies, R., III, 598; VII, 1052; VIII, 1279, 1281; IX, 1455, 1457; X, 335, 341, 343, 382
 Davies, R. M., V, 461; VII, 459
 Davies, W., VII, 817
 Davies, W. M., VII, 373
 Davis, A. C., VI, 120; VIII, 1111
 Davis, L. D., II, 18; VI, 729; VII, 532; VIII, 82, 83, 1037
 Davis, M. B., I, 44; IV, 362; V, 567; VII, 123; 141, 315, 485, 573, 878; IX, 407, 443; X, 896
 Davis, W., IX, 354
 Davis, W. B., I, 179; II, 167; V, 267
 Davison, J. R., VIII, 1033
 Dawe, C. V., III, 312; VI, 8, 246
 Dawe, M. T., VIII, 525
 Dawsey, L. H., III, 337; V, 54; VI, 507
 Dawson, R. B., IX, 503
 Day, D., VII, 943
 Day, L. H., III, 294; IV, 326; V, 240; X, (866)
 Daybell, F., VIII, 530
 De, S. C., X, 1164
 Dean, L. A., IX, 1021; X, 264
 Dean, R. W., VIII, (1072)
- Dearborn, C. H., VI, 783; X, 1054
 Dearing, C., VIII, 425
 Dearness, J., III, 501; IX, 99
 Decary, R., II, 187; V, 128
 Decker, S. W., IV, 420; V, 76, 499, 662; VI, 213
 Decoux, G. J., X, 730
 Deen, O. T., IX, (547)
 DeFrance, J. A., IX, (1121)
 Deger, E., V, 705
 Degman, E. S., I, 45; III, 453; V, 361; VI, 40; VIII, 735; X, 898
 DeGraff, H. F., IX, 1071
 Degrully, L., II, 40
 Dehn, W. M., X, 32
 Deijs, W. B., VIII, 604
 Deinum, H., II, 178, 379
 Dekker, G. H. W. D., X, 1541
 Delap, F., VIII, 1209
 Delassus, —, VIII, 465, 816
 Delaware, VIII, (1378); IX, (726); X, 774
 Delleano, N. T., VI, 252, 253, 254
 Delisie, A. L., VIII, 627
 Del Lungo, A., V, 273
 Delmas, —, X, 92
 DeLong, D. M., IX, (173)
 DeLong, W. A., III, 163; VI, 596; VII, 384, 885
 Delorme, N., X, 1334
 Demaree, J. B., II, 396
 Demidenko, T. T., X, 1299
 Demolon, A., VI, 119
 Demortier, G., IX, 1120, 1486
 von Denffer, D., VII, 525
 Denham, J. H., X, 768
 Denmark, X, 99
 Denmark, Roy. Agric. Soc. Seed Cttee, VIII, 468
 Dennett, J. H., III, 589; IV, 133, 446; VIII, 547; IX, 287
 Dennis, A. C., IX, 744
 Dennis, J. A., IV, 258
 Dennis, R. W. G., VIII, 654; IX, 744; X, (1086)
 Dennison, R., X, 1273
 Denny, F. E., IV, 605; VII, 422; IX, 557, 1102
 Denston, T. C., X, 694
 Dent, O. W. R., IX, 168
 Denuyl, D., VIII, 73
 Department of Agriculture, see under separate countries
 Departement van Economische Zaken, Dienst van den Landbouw, Buitenzorg, X, (1214)
 Dermanis, P., IX, (139)
 Desai, M. C., VII, 813
 Desai, S. V., VI, 619
 Desaymard, P., IX, 755, 760
 Descartes, S. L., X, 1428
 Deshpande, R. B., V, 703
 Deuber, C. G., VI, 625
 Deuss, J. J. B., VI, 159, 160; VII, 185, 190; IX, 246
 Development Commission, London, IX, 693; X, 1568
 Develter, E., IX, (1497)
 Devirian, P. S., IX, (1121)
 Devonshire, C. R., X, 404

AUTHOR INDEX

- Dewald, J. P., II, 164
 Dey, P. K., III, 499; X, 111
 Dhodapkar, D. R., X, 696
 Diachenko, A. E., X, 1348
 Diakonoff, A., IX, 1066
 Diakonov, A. P., X, (351)
 Dias, S. J. F., IX, 1382
 Dick, J., VI, 253, 254
 Dicker, G. H. L., IX, 877; X, 553, 994, 1361
 Dickey, R. D., VIII, 824; IX, 177, 224, 1194; X, 174
 Dickson, B. T., IX, 47
 Dickson, G. H., I, 225; II, 232; VIII, 376, 402; IX, 70, 409; X, 73
 Diehl, H. C., II, 31; IV, 137; V, 306
 van Diermen, J. W., IV, 201
 Dijkman, M. J., IX, 263; X, 279
 Dillon Weston, W. A. R., III, 492
 Dimmock, F., VI, 804; X, 608
 Dippenaar, B. J., VII, 320
 Directie van den Landbouw, Holland, VIII, 793, 1264; IX, 878
 Dirsh, V. M., IX, 684
 Dix, I. W., VIII, 424; X, (921)
 Dix Arnold, P. T., IX, 1507
 Dixon, J. K., IX, 982
 Djou, Y. W., IX, 284
 Dmitriev, A. K., IX, 121
 Doak, B. W., IX, 1112; X, 31
 Dobroscsky, I. D., VIII, (467)
 Dobrovitskaya, S. A., IX, 918
 Dochert, C. A., VI, 458
 Dodd, A. P., III, 348
 Dodge, F. N., VI, 725; IX, 840; X, (950)
 Doeblert, C. A., VIII, (467)
 Doidge, E. M., VIII, 587
 Dolgopolov, M., X, 1023
 Dolgov, S. X., 683
 Dom, C. A. W., IX, 1405
 Dominicá, B. W. I., VIII, 307, (1378); X, (450), (1589)
 Domokos, J., X, 491
 Donath, W. F., V, 116; VI, 922
 Donato, L., VIII, 195
 Doneen, L. D., X, (1086)
 Doneen, I., IX, 431; X, 733
 Doolittle, S. P., VIII, 478
 den Doop, J. E. A., VIII, 1194, 1196; IX, 1390
 Doovina, O. M., I, 26
 Dopp, E., VIII, 848
 Doran, W. L., IX, 176
 Dorasami, L. S., VIII, 246
 van Doren, A., VIII, 736; X, 1221
 van Doren, C. A., X, 1078
 Dorner, H. B., IX, 941
 Dorofeev, P. P., VIII, 1022
 Dorsey, M. J., III, 164; V, 518; VI, 682; X, 501
 Dotti, F., V, 545, 560, 572, 600, 614, 621, 628; VII, 37, 57, 649, 867, 906; VIII, 47, 102, 1059, 1070; IX, 1177, 1202
 Doubleday, L., VI, 10
 Douglass, J., IX, 152
 Dove, W. F., VI, 271
 Dowd, O. J., VI, 937
 Dowden, P. B., VIII, (1072)
 Dowson, V. H. W., V, 491
 Dowson, W. J., III, 38; IX, 550
 Doyle, P. E., X, 1334
 Dragavseth, A. P., VIII, 180
 Drain, B. D., VI, 764; VIII, 714
 Draper, G. E., X, (1136)
 Drboglav, Y. A., IX, 758
 Dreosti, G. M., X, 315, 352, 381, (383)
 Dreyer, D. J., IV, 141; VI, 602; VII, 1091; VIII, 590
 Dreyssing, C., IX, 745
 Drieberg, C., IX, 1053
 Drieberg, J. C., VII, 201
 Driggers, B. F., VII, 76; VIII, 762, (1072); IX, (1260); X, 1002
 Drouineau, G., VII, 105; VIII, 1079; X, 36
 Druhe, K., VII, 923
 Drummond, O. A., X, 1155
 Drummond, R., IV, 381
 D.S.I.R., London, II, 307; IV, 312; VI, 989; VII, 1051, 1092; VIII, 1255, 1313; X, 1271
 D.S.I.R., New Zealand, II, 97; III, 274; IV, 308; VI, 997; VII, 250; VIII, 1362; IX, 761; X, 444, 445, 1579
 Duarte, A. J., VIII, 752, 755
 Duarte, C., III, 393
 Dubrova, P. F., VIII, 411
 DuBuy, H. G., VIII, 935; IX, 1293; X, (1284)
 Ducomet, V., VIII, 370; X, (1086)
 Ducrocq, G., IV, 158
 Dudley, J. E., VII, 135
 Dufour, A., VI, 282; VII, 23
 Dufournet, R., IX, 1011
 Dufrenoy, J., III, 489; IV, 615, 643; V, 447; VI, 143, 485
 Duggar, B. M., VIII, 941; X, 16, 17
 Duka, S., IX, 40
 Dullum, N., VII, 347; VIII, 401; X, 76
 Dulzetto, F., X, 206
 Dumbleton, L. J., V, 232, 404; VII, 365
 Dumonthay, J., VII, 127; X, 514
 Duncan, D. C., IX, 23
 Duncan, E. N., VIII, 567
 Duncan, I. J., X, 572
 Duncan, J. C., III, 194; V, 46
 Dunkelberg, G. H., X, 1140
 Dunkle, E. C., X, 502
 Dunlap, A. A., VI, 327; IX, (547)
 Dunn, S., VII, 869, 873
 Dunning, R. G., X, 1324
 Dupont, R., IV, 654
 Dupouy, L., IX, 822
 Dupuy, A., V, 208
 Durham, H. E., II, 338; VII, 779, 780
 Durham County Council, IX, 694
 Durrell, L. W., VIII, 438
 Duruz, W. P., VI, 719
 Dustan, A. G., III, 74; V, 661
 Dustman, R. B., IV, 669; VII, 1059; X, 572
 Dutch East Indies, Algemeen Landbouw Syndicaat, see Algemeen
 Duthie, D. W., VII, 1034; VIII, 1220
 Duthie, J., VI, 400
 Dutt, N. L., I, 277
 Dutton, A. F., VIII, 498
 Dutton, W. C., II, 138; VI, 304; VII, 85
 Duverney, J. M., VII, 411
 Dwyer, R. E. P., VII, 220; VIII, 260; IX, 642; X, 296, 1501
 Dyck, A. W. J., IX, 1422
 van Dyk, J. W., IV, 134
 Dylevsky, A. A., IX, 758
 Dzhanashia, A. A., VIII, 227
 Eady, G. H., II, 284
 Egland, J. S., VI, 666
 East Africa, Agricultural Departments, VII, 202
 East African Agricultural Research Station, see Amani
 East Malling Research Station, II, 208; III, 273; IV, 313; VII, 902
 Eastham, J. W., VII, 65
 Eastwood, H. W., IV, 555; V, 151; VI, 192, 396, 399; VII, 1248; X, 299, 654
 Eaton, B. J., V, 712
 Eaton, F. M., V, 192, 332; VII, 9; X, 817, 837
 Eaton, S. V., X, 468
 Eaves, C. A., V, 498, 733; VII, 1049; VIII, 884; IX, 654, 1056
 Ebel, M., IX, 990
 Ebeling, W., V, 101; VI, 367; VIII, 1151; X, (568)
 Echegaray, M., VI, 154
 Eckart, T. G., I, 311
 Eckerson, S. H., I, 340
 Eckert, J. E., VIII, 457
 Eckstein, O., VIII, 302
 Eden, T., I, 280; II, 174; III, 142, 590; IV, 115, 270; V, 283, 284, 462; VI, 897; VII, 744; X, 235
 Edgar, J. L., V, 198; VIII, 54, 417, 418, 709
 Edgecombe, S. W., X, 1329, 1347
 Edinburgh and East of Scotland, College of Agriculture, IX, 695; X, 775
 Editor, Malay. Agric. J., IV, 388
 Editor, N.Z.J. Sci. Tech., III, 139
 Editorial, Calif. Citrogr., VII, 974
 Editorial, J. Jamaica Agric. Soc., III, 257
 Editorial, Kew Bull., IV, 112
 Editorial, Trop. Agriculturist, VII, 784
 Edmond, J. B., X, 1140
 Edmundson, W. C., IX, 1272; X, 1036
 Edwards, D. W., IX, 640
 Edwards, H. I., VII, 391
 Edwards, W. D., IX, 469

AUTHOR INDEX

- Edwards, W. H., III, 383; IV, 652; VII, 735
 Efferson, J. N., IX, 130, 914
 Eggers, E. R., VI, 439; VII, 967; VIII, 1137, 1169; IX, 599, 600
 Eggers, V., X, (821)
 Eggert, R. L., X, 1342
 Egorov, I. A., VIII, 915
 Eguchi, T., VIII, 342; X, 78
 Eide, C. J., X, (1378)
 Eidelman, Z. M., IX, 888; X, 1019
 Eidt, C. C., IV, 21; VII, 773; IX, 664, 681
 Eig, A., X, (226)
 Einset, O., I, 15; III, 25; V, 17; VII, 847; IX, 805, 812
 Eire, X, (450)
 Eisenmenger, W. S., IX, 163
 Ejercito, J. M., VIII, 213
 El Alaily, Y. A. S., IX, 949
 Elayada, A., VIII, 883
 Elazari-Volcani, T., VII, 160
 van Elden, H., V, 274, 724
 Elenev, L. K., VIII, 1179
 El-Helaly, A. F., IX, 923, 924; X, 164
 Ellenwood, C. W., VI, 32; IX, 65, 126
 Elliott, E. C., I, 423
 Elliott, L. E., I, 293
 Ellis, C., VIII, 1334
 Ellis, H. M., IX, (754)
 Elmer, O. H., VI, 600; IX, 1360
 Elmore, J. C., VII, 940
 Elpidina, O. K., VIII, 806
 El-Saifi, A., IX, (1497)
 El-Sawy, A., VII, 706, 711
 Elssmann, E., II, 24; V, 541; IX, 1230
 Elsworth, F. C., X, 391
 Eltinge, E. T., X, 1394
 Elwell, W. E., X, 32
 Elze, D. L., V, 505; VI, 557
 van Emden, J. H., X, 254
 Emerson, R., X, (847)
 Emery, H., VII, 379
 Emmert, E. M., X, (850)
 Emon, J., VII, 48
 Empire Forestry Conference, South Africa, VI, 247
 Empire Marketing Board, I, 93, 319; II, 199
 Emsweller, S. L., IV, 86, 602; V, 243; VII, 377; VIII, 158; X, 144, 1112
 Enderlin, L., VIII, 608
 Engard, C. J., VIII, 405; IX, 1185, 1186
 English, J., IX, 368
 Enikeev, K. K., X, 1309
 Enzie, J. V., VIII, 722
 Eoff, J. R., Jr., X, 393
 Eremeev, G. N., X, 94, 963
 Erlanson, C. O., VIII, 836
 Ernst-Schwarzenbach, M., VI, 112
 Esau, K., VII, 378; IX, 468
 Esbjerg, N., V, 343, 344, 500, 501; VI, 204; VII, 347, 586, 615, 686; VIII, 470; IX, 307
 van Eseltine, G. P., III, 283; IV, 17
 Esinovskaya, V., VIII, 1130
 Esmans, F., VI, 176
 Esper, H. C., II, 112
 Esselen, D. J., VIII, 177; IX, 1337
 Esselen, W. B., VII, 1072
 Essig, E. O., V, 60; IX, 148, 156
 Estrada, M., IV, 672; VI, 186
 Evans, A. C., VI, 82
 Evans, D. I., III, 100; V, 283
 Evans, G., I, 381; X, 1186
 Evans, H., III, 17; V, 689; VI, 893; VII, 740; VIII, 845, 846
 Evans, J. W., II, 346; VI, 93; VIII, 111
 Evans, L. E., VI, 764
 Evenari, M., IX, 5
 Everett, P., III, 213
 Everett, T. H., VII, 420
 Evreinoff, A., VII, 305
 Evreinoff, V., IX, 832
 Evreinoff, V. A., V, 164; IX, 786; X, 489, 510
 Evtushenko, G. A., X, 171
 Ewan, L. M., VI, 426
 Ewart, A. J., VII, 930
 Ewert, —, IX, 1088
 Ext. W., I, 253
 Eyre, J. C., X, (1136)
 Eyster, W. H., VI, 354
 Ezekiel, W. N., IV, 246
 Ezell, B. D., V, 306; VIII, 1273, 1276, 1290; IX, 1065
 Ezio, E., X, 451
- F., G., IV, 111
 F., R. G., VII, 964
 Facey, V., VII, 271
 Faes, H., I, 16; II, 100; III, 146; IV, 63; V, 531; VI, 78; VII, 92; VIII, 1356; IX, 448, 460, 709
 Fagan, F. N., III, 469
 Fahey, J. E., X, 573, (1378)
 Fairbank, H., VII, 116; IX, 507
 Fairweather, J., VII, 1011
 Fajans, E., VII, 350; VIII, 761
 Fallon, F., VIII, 562
 Fallscheer, H., IX, 889
 Fanelli, L., VII, 32; IX, 1072
 Farden, A. C., IV, 662
 Farfel, R. L., IX, 1132
 Faria, D. de C., X, 1196
 Farish, L. R., VI, 304
 Farkas, A., VIII, 1260; X, 362
 Farnham, R. B., VI, 533, 814
 Farrar, J. L., X, 5
 Farrar, M. D., VI, 309; VII, 86; VIII, 766, 1062
 Faulkner, O. T., VIII, 234, (1378)
 Faure, J., VI, 70; VII, 17
 Faure, J. F., IX, 1146
 Faure, J. L., VI, 49
 Fauvet, J. H., X, 1406
 Favorskaya, N. A., VIII, (715)
 Fawcett, G. L., VIII, 825; IX, 162; X, 1420
- Fawcett, H. S., I, 170; III, 82, 573; IV, 617; V, 97, 448; VI, 218, 855; VII, 959; VIII, 189, 1148; IX, 979, X, 642
 Fawns, H. T., VIII, 901
 Fazul-ud-Din, VI, 619
 Fedin, A. K., IX, 205; X, 634
 Fedorov, D. A., X, 1063
 Fedorova, N. Y., VIII, 59
 Feilden, G. St. C., VI, 616; X, 772
 Fellagara, C., X, 1095
 Fellers, C. R., III, 417, 607; IV, 673; V, 244, 304; VI, 959; VII, 434, 1072, 1096, 1103; VIII, 10, 286, 603; IX, 1446
 Fenah, R. G., VII, 1039, 1040; X, 1115, (1423)
 Fenner, K. P., IX, 324
 Fenton, F. A., VIII, (467); IX, (1260)
 Fenwick-Clenell, C. E., X, 1181
 Ferguson, J., IV, 93
 Ferguson, W., V, 511; IX, 140; X, 467
 Fernandez Casariego, L. S., VI, 102
 Fernando, H. M., III, 248
 Fernando, M., VI, 551; VIII, 221, 1329; IX, 617, 630, 653, 1478; X, 251, 271
 Fernbach, A., VIII, 598, 599
 Fernie, L. M., X, 690
 Ferrand, M., VII, 752; IX, 260; X, 1480, 1481
 Ferrara, A., I, 262
 Ferrière, J., VII, 173
 Ferwerda, F. P., II, 385; IV, 449; VI, 906; VIII, 233, 560, 1208; IX, 983, 985; X, 1477
 Fesenkova, N. G., X, (1158)
 Feustel, I. C., VII, 13
 Feytaud, J., IX, 1241, 1242
 Ficht, G. A., IX, (547)
 Fidler, J. C., VII, 1069; VIII, (1292), 1294, 1297; X, 360
 Fiedler, H., X, 402
 Field, C. P., IX, 420, 489
 Fifield, W. M., VIII, 281
 Fiji, III, 616; IX, (726), (1544)
 Fikry, A., IV, 525; VI, 470; VII, 928, 957; VIII, 802; X, 122, 156, 178
 Filewicz, W., VI, 24; IX, 777
 Filinger, G. A., VI, 759; X, 909
 Filippenko, I. A., VIII, 806
 Filosofova, T. P., X, 1309
 Finch, A. H., IV, 353; V, 182; VI, 288, 468; VII, 600, 868; IX, 833; X, (950), 1127
 Findlay, G. H., VI, 228
 Finlay, R. H., X, 1301
 Fischer, A., VIII, 134, 667
 Fischer, H., X, 534
 Fischer, R., III, 47
 Fischich, O., VIII, 3
 Fish, S., III, 491, 493; X, 161
 Fisher, D. F., II, 247; IX, 1059, 1447; X, 1035, 1232

AUTHOR INDEX

- Fisher, D. V., **IV**, 332; **VI**, 691; **X**, 916, 1221, (1258), 1513, 1516
 Fisher, L. A., **VIII**, 714
 Fisher, R. A., **VIII**, 1339
 Fitzgerald, C. D., **X**, (1258)
 Fitzpatrick, A. L., **II**, 407
 Fitzpatrick, R. E., **IV**, 221
 Flanders, S. E., **VIII**, 459
 Flanzly, M., **X**, 1245
 Fleckinger, J., **VIII**, 379; **IX**, 803
 Fleming, W. E., **IV**, 582, 583, 585; **V**, 613; **VI**, 758; **VII**, 81, 97
 Fleming, W. M., **VI**, 456, 711; **X**, 602
 Flemon, F., **IV**, 519; **VII**, 281, 865; **IX**, 383
 Flemons, G. F., **VII**, 514
 Fletcher, L. A., **III**, 305, 307
 Flint, C. F., **II**, 182
 Flint, L. H., **IX**, 1274
 Flint, W. P., **V**, 565; **VIII**, 1062
 Flintoff, A., **II**, 91; **III**, 476
 Floor, J., **VII**, 523
 Florida, **VIII**, 1350; **IX**, 1533
 de Fluite, H. J., **IX**, 279, 281, 1424; **X**, 263, 1171
 Foex, E., **IV**, 126; **VII**, 225; **X**, (1086)
 Fogel, A., **VIII**, 864
 Foister, C. E., **VIII**, 1056
 Follett-Smith, R. R., **IV**, 663; **VI**, 401
 Foote, F. J., **VII**, 720
 Ford, C. E., **X**, 1475
 Ford, W. K., **III**, 540
 Fore, R. E., **X**, 1092
 Forest Department, Latvia, **IX**, 102
 Forestry Commission, **III**, 5
 Formansky, A., **VIII**, 1177
 Forschungsdienst, **IX**, 338
 Forshaw, J. E., **VII**, 677
 Forster, H. C., **II**, 102
 Fortunato, I. K., **X**, 481
 Foscolo, E., **X**, 244
 Foster, A. C., **VII**, 387; **VIII**, 1102
 Foster, H. E., **VIII**, 259
 Foster, W. R., **III**, 501; **VII**, 648; **VIII**, 1117; **IX**, 99
 Fotheringham, N. S., **I**, 374; **IV**, 299; **V**, 34, 573
 Fouché, F. A., **VII**, 84
 Fowler, E. D., **VIII**, 836; **IX**, 842
 Fowler, R., **I**, 327; **V**, 4, 362, 622; **VI**, 97; **VII**, 288
 Fox, D. E., **IX**, (173)
 Fox Wilson, G., **III**, 19; **VI**, 88; **VII**, 793
 Frahm, E. D. G., **IX**, (1084)
 Francis, F. R., **VIII**, 77
 Franco, C. M., **IX**, 1397
 Francois, E., **VI**, 165; **VII**, 200; **IX**, 243
 Francois, M. T., **VII**, 451; **VIII**, 557
 Francolini, F., **IV**, 28
 Franklin, H. J., **V**, 202
 Fransen, J. J., **IX**, 1095
 Franssen, C. J. H., **V**, 484; **IX**, 987, 1431
 Frazer, J., **VI**, 637
 Frazier, T. O., **IX**, 650
 Frazier, W. A., **V**, 420; **VI**, 795; **X**, 1385
 Frear, D. E. H., **V**, 227, 616, 618; **VI**, 506, 638; **VII**, 100
 Freeborn, S. B., **IX**, 1524
 Freeland, R. O., **VI**, 509
 Freeman, H. J., **VII**, 474; **IX**, 645; **X**, 600
 Freeman, W. E., **IV**, 461
 Freire, L., **V**, 133
 Freise, F. W., **I**, 420; **III**, 9, 384; **IV**, 274; **VII**, 205
 Freitag, J. H., **IX**, 147
 de Freitas, A. G. B., **X**, 939
 Frémont, T., **V**, 438; **VI**, 155
 French, A. P., **I**, 224
 French, O. C., **VI**, 352
 Frey-Wyssling, A., **I**, 191; **III**, 566
 Friedman, A., **II**, 156
 Friedrich, G., **VIII**, 441; **IX**, 98, 1158
 Friend, W. H., **III**, 262, 370; **VIII**, 810; **X**, 833
 Frimml, F., **VIII**, 135; **IX**, 133
 Frischenschlager, B., **V**, 176; **VII**, 366; **IX**, 45, 60
 Froggett, J. L., **IX**, 643; **X**, 238, 297, 398
 Frolov, T. V., **IX**, 594; **X**, 1144
 Frost, E. T., **II**, 394
 Frost, H. B., **VI**, 359; **IX**, 194, 567
 Frost, S. W., **VIII**, (467)
 Fruitgrower, **IV**, 502
 Fruitgrowers' Federation of N.S. Wales, **X**, 442
 Fruit Juice Congress, **VII**, 797
 Fruit Processing Committee, **VIII**, 284
 Fryer, J. C. F., **VI**, 307
 Fuchs, W. H., **IX**, 1140
 Fudge, B. R., **IX**, 576, 1341, 1342
 Fuesz, J., **V**, 381
 Fujimura, J., **IV**, 524
 Fukuda, Y., **III**, 77
 Fuller, G. D., **VI**, 86
 Fulling, E. H., **X**, 1262
 Fulmer, E. I., **VIII**, 609
 Funke, G. L., **X**, 20
 Furlong, C. R., **VI**, 966; **VII**, 1053, 1060, 1062; **VIII**, 1278, 1280, 1297; **X**, 357
 Fureaux, B. S., **V**, 8; **VII**, 319; **VIII**, 792; **IX**, 930
 Furr, J. R., **I**, 237, 238; **VI**, 40, 844; **IX**, 972; **X**, 1119
 Furtado, C. X., **X**, 721, 723
 Fyler, H. M., **IX**, 323
 Gabriel, B., **IV**, 513
 Gadd, C. H., **I**, 282; **V**, 462; **VI**, 904; **X**, 686, 687, 1447
 Gaddum, L. W., **VIII**, 600
 Gager, C. S., **VI**, 6; **X**, 2
 Gaines, J. G., **IX**, 537
 Galach'yan, R. M., **IX**, 523
 Galang, F. G., **VII**, 210, 214; **VIII**, 251, 872
 Galanos, S., **III**, 457
 Gallotti, M., **X**, 1014, 1095, 1519
 Gambia, **VIII**, (1378); **IX**, (726), (1544)
 Ganapathy, C. V., **X**, (765)
 Gandhi, S. R., **IV**, 606; **IX**, 561; **X**, 203
 Gandrup, J., **VIII**, 561
 Gane, R., **VI**, 25, 953; **VII**, 493; **VIII**, 1306; **X**, 331
 Gante, T., **VIII**, 443
 Gapon, E. N., **(42)**
 Gardner, C. A., **III**, 211
 Gardner, F. E., **VII**, 266, 829; **VIII**, 337; **IX**, (1121), 1436; **X**, 499, 500, 891, (921)
 Gardner, R., **VIII**, 695
 Gardner, V. R., **I**, 216; **V**, 351, 383; **VII**, 31; **VIII**, 41; **IX**, 774, 1510; **X**, 880
 Garner, H. V., **VIII**, 917
 Garner, R. J., **I**, 131; **III**, 290; **IV**, 165; **V**, 166; **VI**, 12, 616; **VII**, 827; **VIII**, 615, 679, 741; **IX**, 413, 414, 440, 775, 831; **X**, 772, 862
 Garner, W. W., **VI**, 632; **IX**, 385
 Garnett, C. B., **VII**, 177
 Garnett, F. E., **VIII**, 1310
 Garretsen, A. J., **I**, 281
 Garrett, S. D., **VII**, 893; **X**, 525
 Garrido, T. G., **VII**, 180
 Garver, H. L., **V**, 527; **IX**, 740
 Gary, W. Y., **V**, 503
 Gashkova, O. A., **X**, 200
 Gasparini, M., **IX**, 916
 Gassner, G., **IV**, 245
 Gaston, H. P., **VI**, 281
 Gatte Fosse, J., **X**, 189
 Gaugain, S., **X**, 477
 Gaupp, K., **IV**, 301
 Gaut, R. C., **VII**, 375
 Gavrilov, K. I., **X**, 1275
 Gavrilova, L. G., **X**, 944
 Gay, F. J., **V**, 629
 Gayel', A., **X**, 224
 Gaylord, F. C., **V**, 960
 Gearread, T. N., **X**, 52
 Gehlsen, C. A., **VIII**, 218, 1230; **IX**, 1442; **X**, 681
 Geisenheim am Rhein, **II**, 99; **IV**, 498; **VI**, 990; **VIII**, 1351; **IX**, 697
 Gentner, L. G., **IV**, 389
 George, E. J., **VI**, 735
 Georgi, C. D. V., **I**, 401; **II**, 180, 289, 377; **III**, 268, 610; **V**, 318; **VI**, 393, 411, 565, 888; **VII**, 482, 737, 738, 999, 1000; **VIII**, 215, 216, 296, 297, 606; **X**, 240, 241, 242, 663, 676, 1432
 Georgi, C. E., **IV**, 237
 Georgia, **VIII**, (1378); **IX**, 698
 Georgobiani, J. A., **VIII**, 830
 Geraldes, C. de M., **I**, 97, 98
 Gerbaldi, C., **VIII**, 33, 37, 1034, 1061; **IX**, 71, 1170; **X**, 1001
 Gerdel, R. W., **III**, 158

AUTHOR INDEX

- Gerhardt, F., I, 101; VIII, 1273, 1276, 1290; IX, 657, 1065
 Gerhart, A. R., I, 8
 Gericke, W. F., X, 1544
 Gerner, G., X, 843
 Gerritsen, J. D., X, 988
 Gershoy, A., V, 658, 659
 Gervais, P., VIII, 1017; IX, 1199
 Geslin, M. H., VI, 63; VIII, 1031; X, 966
 Gethin-Jones, G. H., IV, 692; VI, 569; IX, 625
 de Geus, J. G., X, 255
 Ghiesquière, J., VI, 925
 Ghilini, C. A., VIII, 894
 Gibberd, A. V., X, 1470, 1508
 Gibbs, M. A., I, 53
 Gibson, A., IV, 601
 Gibson, G. W., V, 78
 Giersbach, J., II, 108
 Giesberger, G., X, 1187
 van der Giessen, C., IX, 1004
 Gigante, R., IX, (1324); X, 529
 Gigiberia, S. L., VI, 901
 Gilbert, B. E., V, 639; VII, 389, 941
 Gilbert, S. M., I, 181; III, 231; V, 690; VI, 161; VIII, 231, 1211; IX, 1395
 Gildehaus, E. J., I, 245
 Gilgut, C. J., VIII, 1122
 Gill, H. C., V, 311, 510, 740
 Gill, N. T., VII, 64
 Gillespy, T. G., VIII, 1318, 1321; IX, (1509)
 Gillett, S., II, 386; V, 466; VII, 191; VIII, 1206; IX, 624, 626; X, 1178
 Gilliat, C., X, 1483
 Gilmore, J. V., IX, (547)
 Gilyarov, M. S., IX, 278
 Gimingham, C. T., VII, 920; X, 989
 Ginali, M. A., X, 119
 Ginsburg, J. M., VII, 96; VIII, (1072); X, 999, (1378)
 Girdhari Lal, VIII, 1319
 Giscard, R., IX, 981
 Gladwin, F. E., II, 150; VI, 721
 Glasgow, H., V, 61
 Glasscock, H., IX, 933, (938); X, 1397
 Gleed, C. J., VIII, 1000
 Gleisberg, W., I, 30, 31, 32, 335; II, 115; III, 505, 506; V, 579
 Glover, J., IX, 239, 1389
 Gloyer, W. O., III, 332; IV, 375
 Gnadinger, C. B., X, 998
 Gocholashvili, M. M., VIII, 320; X, 1125
 Goddard, D. R., X, (1086)
 Godfrey, G. H., VII, 478
 Godfrey, W., X, 1021
 Godnev, T. N., X, (847)
 Goetz, O., X, 770
 Goia, G., VIII, 33, 37, 1034, 1061; IX, 71; X, 1001
 Goidanich, A., V, 630
 Goidanich, G., VIII, 66; X, 591
 Goldberg, E., VIII, 938; X, (460)
 Gold Coast, II, 418; VIII, (1378); X, (450)
- Gold Coast, Cocoa Research Station, Tafo, IX, 699
 Goldhausen, M. K., VIII, 860
 Golding, F. D., VI, 895, 896
 Goldsmith, E. V., VI, 490
 Goldsworthy, M. C., VIII, (1072)
 Golovin, P., X, 1141
 Gomes, J. G., IX, 1349
 Gomez, E. T., VIII, 787
 Gomez, L. A., X, 1449, 1450, 1453, 1454
 Gonçalves, A. P., X, 1165
 Goncharenko, F. I., X, 589
 Gonsalves, A. D., IX, 633
 Gonzalez, L. G., III, 112; IV, 621; X, 707
 Goodall, D. W., VI, 792; VIII, 136, 137, 138, 1104; IX, 1287
 Goodhue, L. D., VII, 97
 Goodspeed, T. H., IX, 379
 Goodwin, R. H., VII, 259; IX, (1121)
 Goodwin, W., II, 252; III, 329; IV, 379; V, 596; VI, 484; VII, 647; IX, 473
 Gopalayengar, K., V, 701
 Gorbovsky, A. G., X, 457, 810, 1278
 Gordon, W. E., X, 840
 Goring, E. T., IX, 31
 Gorjaczkowski, W., VIII, 666, 683
 Gorman, E. A., VII, 234
 Gorrie, R. M., X, 231, 232
 Gorshkov, I. S., VIII, 374
 Gorshkov, L. A., IX, 305
 Gosselin, A., IX, 33; X, 1334
 Gossenberger, E., IV, 189
 Got, N., X, 49
 Goubeaux, J., IV, 631
 Goude, H., III, 29, 496
 Gould, E., IX, 125
 Gould, H. P., IX, 36, 417, 455, 638; X, 1424
 Gould, L. A., IX, 1505
 Gould, N. K., IV, 97
 Gourley, J. H., I, 2, 49, 145; III, 155, 450; VI, 3; VIII, 986; IX, 34, 65, 435; X, 503, (921)
 Gouvernement Général de l'Afrique Occidentale Française, V, 315
 Gouwentak, C. A., VI, 124
 Grace, N. H., VIII, 339; IX, 16; X, 10, 11, 12, 13, 14, 15, (460), 802, 803
 Gradinger, C. B., IX, 610
 Graham, G. R., VII, 198; X, 715
 Graham, J. A., VI, 913; VIII, 1223
 Graham, R. J. D., VI, 122
 Grainger, C. E., X, 926
 Grainger, J., VI, 270; VII, 279; VIII, 511; IX, 1165; X, 846, 969
 Gram, E., V, 610
 Grampoloff, A. V., VIII, 275; IX, 304
 Grandfield, C. O., VII, 273; VIII, 14
 Grange, L. I., VIII, 1184
- Granovsky, A. A., VIII, 1083
 Grant, J. W., VI, 918
 Grant, T. J., IX, 1232
 Grasby, C. G., VIII, 65
 Grasovsky, A., II, 406; III, 148, 149; IV, 12, 127, 481; VI, 476, 495, 592
 Le Graverend, E., VII, 140
 Gray, G. F., V, 191; VI, 276, 346
 Gray, R. A. H., V, 406
 Greatorex, F. J., III, 442; IV, 13
 Greatorex, S., III, 493
 Grebensky, S. O., VIII, 386
 Green, D. E., IV, 96; V, 253; VI, 531; IX, 549
 Green, E. C., VIII, 1221; IX, 627
 Gréen, E. L., IV, 249; VIII, (1072)
 Green, F. M., II, 369
 Green, J. R., VII, 354
 Greene, J. X., (460), 820
 Greene, L., V, 189; VIII, 39
 Greene, R. A., II, 378
 Greenfield, S. S., VIII, 622
 Greenhill, A. W., VIII, 396; IX, 898
 Greenslade, R. M., IV, 397; V, 228, 230; VI, 491, 493, 498, 982; VII, 902; VIII, 752, 755; IX, 106, 872; X, 124, 976
 Greenstein, E. J., X, 584
 Greenstreet, V. R., III, 544
 Greenway, P. J., VIII, 1193
 Greenwood, D. E., VIII, (1072)
 Gregor, M. J. F., VIII, 1056
 Gregory, E. J., V, 669; X, 201
 Gregory, F. G., VI, 1; VIII, 516; IX, 396
 Gregory, J. H., I, 418; II, 409; VI, 210, 221; VIII, 592, 1002, 1244; IX, 1203; X, 303, 743
 Gregory, J. S., VII, 238
 Gregory, P. H., VIII, 1119; X, (1405)
 Gregson, W., VI, 389
 Greig, J. L., I, 190; VII, 1003; VIII, 253, 556
 Grenada, X, (450)
 Gresham Publishing Company, VII, 518
 Greve, E. W., I, 165; VI, 713, 714; VII, 858; IX, 438; X, 1333
 Gribko, N. P., X, 583
 Gridin, I. F., X, 1387
 Griffiths, A. E., IX, 517
 Griffiths, D., IV, 604; VI, 807, 809
 Griffiths, D. G., X, 328, 330
 Grigsby, B. H., IX, 856
 Grim, J. H., IX, 1175
 Grippo, N., V, 84
 Grist, D. H., III, 562; V, 687; VI, 975; VIII, (1378); X, (450)
 Gross, E. W., X, (1284)
 Grossenbacher, K. A., IX, (369)
 Groszmann, H. M., IX, 1441
 Grove, L. C., IX, 956

AUTHOR INDEX

- Grove, O., I, 213, 214, 215; II, 295, 296
 Groves, A. B., VI, 752
 Groves, K., VI, 311, 324; VII, 77, 103; IX, 889
 Grubb, N. H., I, 48, 162; II, 116, 132; IV, 33, 182; V, 369; VI, 268; VII, 333, 537; VIII, 706; IX, 418, 419, 437; X, 871
 Gruber, F., II, 348; IX, (181)
 Grumbein, M. L., VIII, 626
 Grüner, M. N., X, 485
 Gruner, V. S., IX, 326
 Grunnet, H. Ø., IX, 38
 Grzybowski, M., IX, 942
 Guadagnini, L., X, 1153
 Guatemala, Dirección General de Agricultura, X, 307
 Guba, E. F., IV, 243; VIII, 1122; IX, 155, 1300
 Guerrini, G., II, 215
 Guest, E., IV, 267; VI, 917; X, 286
 Guillaume, A., X, 243
 Guillou, R., IV, 210
 Guiscafre-Arrillaga, J., X, 1449, 1450, 1453, 1454
 Gunmaer, P. W., IX, 539
 Gundry, B. G., 1508
 Guneratnam, S. C., VII, 756; VIII, 237, 248, 571
 Gunnery, H., IV, 123; V, 710
 Gunness, C. I., X, 1057
 Gurney, E. H., VII, 771; VIII, 602
 Gusev, P. P., IX, 29
 Guseva, E. I., VI, 35, 828
 Güssow, H. T., IX, 529
 Gustafson, F. G., VI, 513, 938; VII, 388, 814, 821; VIII, 635, 944; IX, 384, 1110, 1332; X, 160
 Guterman, C. E. F., VII, 955
 Guthrie, J. D., IX, 366, 1117; X, 6
 Gutierrez, M. E., VIII, 419, 883
 Gutiev, G., VIII, 1165
 Gutiev, G. T., X, 661
 Guy, H. G., VII, 78, 911
 Guzzini, D., III, 56; IV, 550
 Gwynn, R. I. M., X, 1482
 H., A. G., X, 1162
 Haagen-Smit, A. J., IX, (1121)
 de Haan, I., VIII, 225; X, 254, 684
 van Haarlem, J. R., IV, 370; VII, 612; VIII, 669, 708, 716, 1013
 Haas, A. J., III, 337
 Haas, A. R. C., I, 76, 175, 267, 268, 294, 369; III, 218; IV, 213, 509; V, 266, 440, 449, 490; VI, 544, 545, 560, 561, 835, 872; VII, 156, 157, 162, 438, 450, 716, 907, 966; VIII, 176, 201, 533, 1169; IX, 1336; X, 1413
 de Haas, P. G., VII, 27; IX, 90, 1181
 Haasis, F. A., V, 428; IX, 958
 Haber, E. S., III, 72; VI, 109; X, 1384
 Hackbarth, J., III, 355; VI, 52
 Hackemann, —, III, 97
 Hackleman, J. C., X, 1078
 Hacquart, A., IX, 238, 240
 Hadar, VI, 559; VIII, 524
 Hadfield, J. W., III, 182; VII, 120
 Hadorn, C., VII, 148; X, 982
 Haeußler, G. J., X, (1378)
 Hafekost, G., III, 11
 Hagan, H. R., V, 730
 Hagan, J., IX, 1531
 Hagemann, A., II, 7
 Hagemann, P., VII, 421
 Haggard, A., IV, 80
 Hagiwara, T., X, 1383
 Hahn, G. G., V, 222
 Hahne, B., I, 205
 Hähne, H., VI, 802
 Haidamakin, V. I., VIII, 829
 Haigh, J. C., IV, 118; VII, 176; X, 309, 312
 Haines, G. C., VII, 449
 Haines, W. B., I, 398; II, 182; III, 109; V, 130; VI, 917; VIII, 867; X, 1487
 Halcrow, M., X, 257
 Hales, K. C., X, (383), 1515
 Halewijin, E. K. E., X, 1541
 Hall, A. D., III, 269; X, 526
 van Hall, C. J. I., 390, 394; II, 70; VIII, 1204
 Hall, E. G., X, 729
 Hall, E. R., IX, 1164; X, 493
 Hall, J. W., VI, 73
 Hall, W. J., III, 540; VIII, 803
 Haller, M. H., III, 296, 314; V, 615, 735; VII, 621; VIII, 693; IX, 125; X, 342
 Hallock, H. C., VII, 133, 134
 Halma, F. F., I, 175, 268; II, 50, 278; IV, 429; VI, 834, 837; VII, 714, 965, 967; VIII, 931, 1169; IX, 599; X, 1118
 Haly, D. E., IX, (173)
 Ham, W. R., IX, 23
 Hamersma, P. J., IX, 1060
 Hamilton, D. W., X, (1378)
 Hamilton, J., X, 86
 Hamilton, J. M., V, 218; VII, 898
 Hamilton, R. G. I., II, 17
 Hamilton, W. M., VIII, 170, 1184
 Hammer, O. H., VII, 79; VIII, (1072); IX, (1260)
 Hammond, D. H., VIII, 679; IX, 775, 831; X, 862
 Hammer, C. L., VIII, 334; X, (1086)
 Hammer, K. C., VI, 436; VIII, 331, 332, 333, (943); IX, 1123; X, (460), (847)
 Hamond, J. B., III, 59, 171; V, 209, 396, 574; VI, 464; VIII, 434
 Hampe, P., IX, 1127, 1128
 Hampshire C.C. Agricultural Education Committee, VIII, 1000
 Hampson, C. C., III, 145; V, 530, 564; VI, 700
- Hanes, C. S., VII, 1068, 1070; VIII, (1292); X, 336
 Hanf, M., IX, 480
 Hanna, A. D., X, 656
 Hanna, G. C., VI, 108
 Hansen, C. J., IV, 336; VI, 439
 Hansen, E., VI, 273; VII, 1056; VIII, 581; X, 333, 1225
 Hansen, J. W., IX, (1355)
 Hansing, E. D., VI, 817
 Hanson, A. J., VI, 815; IX, 868
 Hanson, A. P., VI, 194; VII, 963
 Hanson, H. C., I, 358
 Harako, H., VII, 866
 Harcourt, F. G., II, 49
 Harcourt Butler Technical Institute, Principal, III, 115
 Harden, F. B., VIII, 77
 Hardenburg, E. V., V, 640
 Harder, R., I, 326; VII, 525
 Harding, P. L., IV, 482; V, 301, 735; VI, 948; VII, 229, 1090; VIII, 693; IX, 1447; X, 342
 Hardisty, F. E., IX, 365
 Hardon, H. J., VI, 157; VII, 750; X, (237)
 Hardy, F., III, 394; V, 112, 434, 469, 476, 700; VI, 575, 576; VII, 1026, 1028, 1029; IX, 1410, 1411; X, 1429, 1463, (1510)
 Hardy, J. K., X, (383), 1515
 Hardy, M. B., II, 146; V, 40; X, (950)
 Hargrave, J., IX, 1319; X, 181, 182, 183
 Hargreaves, E., VII, 736; VIII, 840
 Harlan, J. D., III, 303, 470; V, 26, 43; IX, 1308
 Harler, C. R., IV, 306
 Harley, C. P., III, 452; V, 150, 367, 591; VIII, 987; IX, 1213; X, 880, 884
 Harlow, L. C., I, 46
 Harman, S. W., III, 345; VIII, (467), (1072); X, 997
 Harmon, F. N., IV, 357; VI, 286, 716; X, 937, 1344
 Harrington, J. F., X, 1064
 Harris, G. H., I, 64; V, 372; VI, 284; VIII, 415; X, 509
 Harris, J. B., V, 41; VII, 316; VIII, 77
 Harris, P. L., IX, 648
 Harris, R. V., II, 148; III, 188, 195, 488; V, 213; VI, 71, 521; VII, 635, 636, 638; VIII, 740, 743, 792; X, 102, (952), 974, 986
 Harris, W. V., VIII, 1193
 Harrison, A. L., IX, (893), 1294; X, 1073
 Harrison, B. F., VIII, 336
 Harrison, C. J., X, (765)
 Harrison, E., VIII, 833
 Harrison, G. J., I, 274
 Harrison, J. A., X, (847)
 Harrison, T. H. J., IX, 687
 Harrold, T. J., VI, 21
 Harter, L. L., V, 74; IX, 159
 Hartley, B. J., VI, 588

AUTHOR INDEX

- Hartley, H., VI, 201
 Hartman, H., I, 308, 309; VI, 273; VII, 1056
 Hartman, J. D., VIII, 140, 1092; X, 1072
 Hartsema, A. M., III, 523; VIII, 165, 167; IX, 952, 954, 957
 Hartshorn, R., I, 313
 Hartung, M. E., X, 293
 Hartzell, A., V, 390, 620; VII, 359; IX, (506), 1284
 Hartzell, F. Z., IV, 69, 70; VIII, 450, (467), (1072)
 Harvey, E. M., I, 236; VI, 838, 839; VII, 433; IX, 578
 Harvey, M. T., X, (1542)
 Harvey, R. B., I, 155; VII, 495; VIII, 726; X, 1220
 Harwood, L. W., VII, 514; IX, 337
 Haseman, L., IV, 394; VIII, 776; X, 1371, 1372
 Haskins, C. P., IV, 151; V, 258
 Haskins, H. D., V, 334
 Hassan, A. A. G., VIII, 757
 Hasebrauk, K., IV, 245; IX, 138
 Hastings, R. J., VIII, 519; IX, 183; X, 187
 Hatch, M. B., IV, 78; VI, 323; VII, 916
 Hatcher, E. S. J., IX, 917
 Hatfield, I., 113
 Hatton, R. G., I, 29, 42, 62, 125; II, 15; IV, 9, 29, 325; V, 170, 171; VI, 13, 444; VII, 902; VIII, 308; IX, 415; X, 168, 865, 1264
 Hausmann, W., X, 829
 Haut, I. C., VI, 713
 Havas, L., VIII, 321
 Havemann, A. R., X, 1305
 Haviland, P. H., IV, 445
 Davis, L., VI, 3; IX, 34, 901; X, 93
 Hawaii, I., X, (1378)
 Hawaii, VIII, 1352; IX, 1534; X, 776
 Hawker, L. E., III, 4; X, 1113
 Hawthorn, L. R., V, 422, 642; VI, 329, 781; X, 740, 1064
 Hayami, F., V, 16
 Hayes, T. R., III, 569
 Hayhurst, H., VII, 1074
 Hayward, K., VI, 863
 Hayward, K. J., X, 1373
 Heald, F. D., VII, 343; IX, 663; X, 324
 Hearman, J., III, 495; VI, 455, 662; VII, 25
 Heath, O. V. S., IV, 510; IX, (399)
 Heck, A. F., V, 282
 Heckel, M., VIII, 1333
 Hector, J. M., VII, 448
 Hedges, F., IX, 533
 Hédin, V., VI, 53; VII, 308
 Heermann, W., I, 166; II, 34
 Heiger, E. F., X, 613
 Heilborn, O., IX, 1166
 Heimann, D. O. R., III, 12
 von Heimendahl, A., III, 301
 Heimsch, C., IX, 1204
 Heinicke, A. J., I, 57, 136; III, 141, 455, 460; IV, 178; V, 352; VI, 664, 674; VII, 569; VIII, 38, 91; IX, 881; X, 959
 Heintz, G. V., I, 328; II, 74
 Heintze, S. G., IX, 528
 Heinze, P. H., X, 1289
 Heisig, C. P., IX, 765
 van Heil, W. F., IV, 130
 Hellinger, G., VI, 124
 Hellinger, E., III, 90; IX, 1032
 van der Helm, G. W., IX, 544
 Helson, G. A. H., IX, 319, 875
 Hely, P. C., IV, 110
 Henderson, I. F., X, 408
 Henderson, M. R., IV, 231
 Henderson, W. D., X, 408
 Hendrickson, A. H., V, 27, 547; VIII, 391; X, (1258)
 Hendrickx, F. L., 1402; X, 1433
 Hendriques, V., II, 203
 Henkel, H., VI, 946
 Hennard, F., X, 1163
 Hennig, K., VI, 127
 Henrick, J. O., VI, 301
 Henrickson, H. C., III, 81
 Henry, A. W., IX, 171
 Henry, V. M., X, 767
 Hensill, G. S., VII, 98
 Hepburn, G. A., VI, 91, 149; VIII, 452
 Hepting, G. H., X, 625
 Herber, E. K., VIII, 806
 Herbert, A. D., IV, 624
 Herbert, D. A., X, 972
 Herbst, W., VI, 744; VII, 338, 341; IX, 364, 800, 801
 Hermans, W. B., IV, 72
 Herold, G., IX, 1189
 Herrero, M., V, 435, 439, 507; IX, 571
 Herschler, A., I, 263; VII, 51
 Hervé, G., X, 243
 Hess, A. D., X, 1367
 Hesse, C. O., VI, 675; IX, 804
 Hester, J. B., VI, 772; X, 1064, (1400)
 Heubel, G. A., VIII, 868; IX, 273, 1419
 Heusser, C., III, 564
 Hewetson, F. N., VII, 554
 Hewitt, W. B., IX, 1223, 1231, 1370
 Hexnerová, H., IX, 735
 Hey, G. L., III, 508; IV, 228, 393, 395, 396; V, 63; IX, 497
 Heyrovský, J., IX, (405)
 Hibbard, A. D., X, (1086)
 Hibbard, P. L., X, 1356
 Hibbard, R. P., II, 358
 Hickinbotham, A. R., IV, 205
 Hickman, C. J., VII, 687; VIII, 770, 786; IX, 864, 895; X, 987, 1084
 Hicks, E. W., V, 138
 Hida, M., X, 197
 Henton, T. E., VIII, (1072)
 Hilborn, M. T., VII, 627
 Hildebrand, A. A., IV, 383; V, 223; VI, 300; VII, 638; IX, 107; X, 123
 Hildebrand, E. M., IV, 376; VII, 331; VIII, 91, 92, 760, 1046; IX, 887; X, 880
 Hildreth, A. C., VI, 736
 Hilgeman, R. H., VIII, 809; IX, 655, 833; X, (1136), 1231
 Hilkenbäumer, F., VII, 20, 289; VIII, 677, 680
 Hill, A. G., VII, 1010
 Hill, A. V., VIII, 153; IX, 166
 Hill, E. B., X, 1428
 Hill, H., IV, 603; V, 637; VII, 123, 141, 315, 609, 803; X, 962, 1391
 Hill, H. P., V, 157
 Hillenmeyer, W. W., I, 124
 Hillsborough, IX, (1544)
 Himmelbauer, W., VIII, 156
 Hinchy, V. M., IX, 242, 335
 Hindii, A. H., VII, 93
 Hine, E., IX, 1148
 Hing, T. K., X, 1434
 Hinman, F. G., IX, 158
 Hinton, J. C., II, 225, 231; V, 355, 356, 357
 Hiramatsu, B., X, 197
 Hirano, E., I, 370
 Hirst, F., III, 175; VI, 798; VII, 239; VIII, 1316; IX, 1491; X, 1525, 1526, 1528
 Hirt, R. R., VII, 272
 Hitchcock, A. E., II, 114, 362; III, 525, 526; VI, 624, 626; VII, 262, 264, 374, 818; IX, 356, 357, 358, 1100, 1101, 1105, 1107, (1121), 1122; X, 796, 797
 Hoagland, D. R., IV, 363; VI, 621, 727; VII, 321, 880; IX, 390, 742, 1138; X, 28, (847)
 Hoar, T. P., X, 756
 Hoare, A. H., VI, 475; VII, 111, 522, 1106; VIII, 434, 785, 917
 Hobbs, E. W., X, 47
 Hoblyn, T. N., I, 42, 62; II, 32; IV, 27, 177, 193; VI, 268, 472; VIII, 54, 665, 709, 1263; X, 1316
 Hock, C. W., IX, 1119
 Hockey, J. F., II, 413; III, 127; IV, 479; VII, 68; IX, 489
 Hodgkins, W. S., X, 1290
 Hodgkiss, W. S., VI, 506
 Hodgson, L., IX, 982
 Hodgson, R. E., IX, 1083
 Hodgson, R. W., I, 363; V, 110; VI, 832, 873, 874; VII, 154, 705, 960; VIII, 247, 1136, 1137, 1168, 1170; IX, 600, 1364; X, 1146
 Hodson, W. E. H., V, 82; VIII, 509, 749; X, 422
 Hoedt, T. G. E., IX, 1015
 Hoerner, G. R., X, 1090, 1398
 Hoerner, J. L., IX, (467)
 Hoette, S., V, 729
 Hoffer, G. N., IX, 387
 Hoffman, I. C., V, 417; X, 1064
 Hoffman, M. B. I., 147; III, 141; IV, 178; VI, 762; VII, 859, 914; X, 891

AUTHOR INDEX

- Hofmann, F. W., I, 47; II, 133
 Hofmeyr, J. D. J., III, 253; VII, 476; IX, 1371; X, (657)
 Hoh, H. C., X, 662
 Höhn, E., X, 761
 Holbert, J. R., III, 440
 Holland, E. B., IV, 243
 Holland, F. L., V, 92
 Holland, J. H., II, 398; VII, 1108
 Holland, T. H., I, 383; II, 384; III, 243, 391
 Holland, Ministerie van Economische Zaken. Directie van den Landbouw, VIII, 793, 1264; IX, 878
 Hollands, H. F., IX, 1070
 Holloway, J. K., X, (1378)
 Holm, J. M., X, 1147
 Holman, H. J., X, 1267
 Holmes, L. E., IV, 132
 Holmes, N. E., VIII, 1297
 Holtum, R. E., X, 719, 723
 Holubinskaya, N. I., X, 1094
 Holubinsky, I. N. X, 1094
 Holz, W., VI, 743; IX, 1228; X, 109, 983
 Homan, C., VIII, 16
 Hong Kong, VIII, (1378); IX, (1544)
 Hooker, H. D., Jr., IX, 1510
 v.d. Hoop, D. J. N., III, 245
 Hooper, C. H., I, 244; II, 219; III, 20; IV, 335; V, 544; VI, 451; IX, 806
 Hooper, P. D., IX, 77
 Hoover, S. R., X, 830
 Hope, C., VII, 598
 Hopfinger, J. C., I, 142
 Hopkins, E. F., I, 49, 145; III, 155
 Hopkins, J. C. F., VIII, 101, 1035, 1047; IX, 165, 861; X, 651, 951
 Hopkins, J. W., V, 525
 Hopkins, R. H., IX, 696
 Hopper, W. C., X, 920
 Horn, C. L., X, 1493
 van Horn, C. W., VI, 288; VII, 599, 868; X, (950)
 Hornbostel, W., X, 537
 Hornby, A. J. W., VIII, 202
 Horne, A. S., VI, 949; VII, 1066; VIII, 392, 1274, 1275; X, 325, 326
 Horne, W. T., III, 119; IV, 556; V, 458; VI, 152
 Horner, G., VIII, 909, 1322, 1324, 1325; IX, 1494; X, 1527
 Horsfall, F., Jr., IX, 423, 461
 Horsfall, J. G., IV, 401; V, 242; VI, 803; IX, 476, 525, (893)
 Horsman, H. T., III, 312
 Horticultural Division, South Australia, VII, 337
 Horticultural Division, Tasmania, VII, 342
 Horticultural Education Association, III, 131, 614; V, 160; VI, 236; VII, 254; VIII, 309; IX, 350; X, 434
 Horton, D. E., V, 78; IX, 556; X, 180, 184, 185
 Hoskins, W. M., V, 60; VII, 98; VIII, 1139; IX, 124, 215
 Hosni, M., VI, 100
 Hösslin, R., IX, 1267
 Hotta, T., IX, 1149
 Hough, L. F., X, 879
 Hough, W. S., IV, 230, 570; V, 626; VII, 102; VIII, (1072)
 Houghtaling, H. B., X, 160
 Houk, W. G., VI, 568
 Houser, J. S., VII, 80
 Houw, T. S., IX, (1084)
 Howard, A., I, 422; V, 197, 463; VI, 430; VIII, 922; IX, 199; X, 38, 1076, 1259
 Howard, F. L., X, 1064
 Howard, H. W., IX, 361; X, 1281
 Howard, R. H., VI, 361
 Howe, G. H., III, 282
 Howells, D. V., II, 212; IV, 361; VI, 77; IX, 823
 Howes, F. N., VIII, 212
 Howlett, F. S., I, 27; II, 136; IV, 43; VII, 386, 578; VIII, 672; IX, 919; X, 880, 1067
 Howorth, H. G., III, 26
 Hoy, B., VII, 65, 652
 Hoyer, D. G., VII, 90
 Hoyer, F., III, 96; VIII, 268
 Hörgaard, A., VIII, 1085
 Hrubý, K., IX, (1184)
 Hsiao, T. Y., IX, (1260)
 Hu, C. C., V, 543, 666; VIII, 358
 Hubbell, D. S., IV, 248
 Hubbenet, E. R., II, 5
 Huber, G. A., VI, 741; VII, 892; IX, 857, 1229
 Hubert, B., VIII, 940
 Huckett, M. C., IV, 71
 Hudson, E. C., III, 60
 Hudson, J. P., X, 177
 Hudson, P. S., IV, 316
 Huelin, F. E., VIII, 1298; IX, 306
 Huelsen, W. A., VII, 119, 121; IX, 1296, (1304)
 Hufford, G. N., X, (598)
 Huggins, H. D., I, 184
 Hughes, A. E., VIII, 1150
 Hugo, F. C., VII, 592; IX, 1196; X, 95
 Huisman, E., III, 523
 Huitema, W. K., IX, 231, 983, 985
 Hull, R., VI, 973; X, 1253
 Hulme, A. C., VI, 672; VII, 294, 295, 611, 1067; VIII, 1270, (1292); X, 319, 320, 322
 Hülsen, G., VI, 175; VIII, 1229
 Hülsenbeck, H., V, 196; X, 1051
 Hülsmann, B., VII, 137
 Hulissen, C. J., X, 1194
 Humbert, A., X, 521
 Hume, E. P., X, (847)
 Humfeld, H., IX, 927
 "Humphrey John," X, 768
 Humphries, E. C., IX, 1500, 1501, 1502, 1503, 1504; X, 1464, 1465, 1466
 Hunt, E., V, 335
 Hunt, E. M., X, 1336
 Hunt, I. V., (405)
 Hunt, R. W., VI, 556
 Hunter, H., II, 209
 Hunter, R. E., I, 368; II, 161; X, 394
 Hunter, W. T., I, 428
 Huntley-Wilkinson, C., X, 1446
 Hurd, C. J., II, 321
 Hurd-Karrer, A. M., X, 578
 Huruya, M., III, 297
 Husfeld, B., III, 53; V, 35; IX, 79, 110; X, 80, (950)
 Husz, B., III, 264; X, 543, 1355
 Hutchins, A. E., I, 119; V, 423; VI, 328, 767, 768; X, (1400)
 Hutchins, L. M., VII, 640
 Hutchinson, H. P., III, 279; V, 328; VII, 529, 530; VIII, 657; IX, 752
 Hutchinson, J., X, 673
 Hutchinson, C. B., IX, 1524
 Hutson, J. C., III, 572; IX, 1378, 1432; X, 270
 Hutson, R., VIII, (1072)
 Huyskes, J. A., X, 1046
 Hwang, L., X, 361
 Hwang, Y., X, 7
 Hyatt, J. B., III, 578; VII, 161; IX, 1470
 Hyde, W. C., IX, 761
 Hylmö, B., X, 1552
 Hynes, H. J., X, 163
 Hyre, R. A., IX, 880
 Ibatulina, F. S., X, (128)
 Ibryae, I., X, 1030
 Iglesias, B. R., VI, 570
 Iljin, M. P., IV, 324
 Iljin, W. S., X, 834, 1286
 Illing, G., VIII, 703
 Illinois, V, 605; VIII, 1353; X, 777
 Illinois State Natural History Survey and Department of Horticulture, VII, 662
 Il'yashenko, K., VI, 548, 880
 Il'yinsky, A. M., VIII, 814
 Imai, Y., VIII, (1123)
 Imamura, Y., III, 297
 Imms, A. D., IX, 1512
 Imperia, Istituto Sperimentale per l'Olivicoltura, III, 435
 Imperial Agricultural Research Institute, New Delhi, X, (450), (1589)
 Imperial Bureau of Fruit Production, I, 109; III, 137, 270; IV, 149, 696; VI, 616, 982; VII, 1120
 Imperial Bureau of Horticulture and Plantation Crops, VIII, 1379; IX, 687, 1098; X, 772
 Imperial Bureau of Soil Science, V, 746
 Imperial College of Tropical Agriculture, Trinidad, III, 430; IV, 504; VII, 1113; VIII, (1378); IX, (726), (1544); X, 1584

AUTHOR INDEX

- Imperial Council of Agricultural Research, India, VI, 991; VIII, 1354; IX, 702, 1535; X, 790, 1571, 1572
- Imperial Economic Committee, London, VIII, 300, 301, 926, 927, 928, 1341; IX, 347, 348, 700, (701), 1091, 1092, 1516, 1517; X, 419
- Imperial Forestry Institute, Oxford, VIII, 727
- Imperial Institute, London, I, 95, 380; IV, 272, 490; VII, 483; VIII, 660; X, 1267
- India, Department of Education, Health and Lands, X, 1573
- India, Government of, II, 59
- Indian Tea Association, VI, 992; VIII, 310; IX, 703; X, 435, 1172
- I.N.E.A.C., VI, 241; VII, 252; X, 436
- Ing, E. G., IV, 172
- Institut für Obstbau, Berlin, V, 5; VII, 314. *See also* Berlin Dahlem
- Institute of Plant Industry, Indore, IX, (1544)
- Institute of Plant Industry, Leningrad, VIII, 357, 796; X, (1587)
- Institute of Plant Protection, Leningrad, IX, 704, (1515)
- International Horticultural Congress, I, 109; III, 431; V, 517; VIII, 929, 1332
- International Institute of Agriculture, Rome, III, 135, 272, 432, 433, 613; IV, 495, 503; VII, 521; IX, 340, 1097, 1471; X, 410, 411, 412
- International Institute of Intellectual Co-operation, IX, 685
- Iowa, II, 311; VIII, 1355; IX, 705; X, 1574
- Ireland, F., 610
- Irish, C. P., I, 246
- Irvine, F. R., IV, 305
- Irwin, J. O., I, 323
- Isaac, W. E., V, 589; VIII, 327, 1258, 1291; IX, 1449, 1453, 1459; X, 318, 337
- Izaev, S. I., VIII, 23; X, 1382
- Izely, D., VIII, (1072)
- Isenbeck, K., IX, 1140
- Isgur, B., VIII, 10
- Isham, P. D., III, 607
- Isherwood, F. A., VIII, 1305; X, (378)
- Istituto Sperimentale per l'Olivicoltura, Imperia, III, 435
- l'Italia Agricola, III, 212; IV, 691
- Itano, A., VII, 189
- Ito, H., III, 295; VIII, 343, 381
- Ivakhnenko, N. A., IX, 1295
- Ivanidis, G. P., IX, 206
- Ivanov, N., VIII, 126
- Ivanov, N. N., VIII, 1315
- Ivanov, S. M., X, 1414, 1415, 1416
- Ivanova, N. A., IX, 123, 214
- Ivashchenko, A. I., VIII, 1175; IX, 604
- Iverson, V. E., X, 515
- Iwata, H., X, 56
- Iyer, P. V. K., VI, 894
- Iyer, S. S., X, (850)
- Jaccard, P., IX, 739
- Jack, H. W., II, 192; III, 571; VI, 190, 413; VII, 460; IX, 236; X, 397
- Jacks, G. V., X, 1543
- Jackson, F. K., IV, 5
- Jackson, J. R., VIII, 625
- Jackson, T. H., VIII, 1206
- Jacob, A., I, 424; VIII, 118
- Jacob, F. M., X, 992
- Jacob, H. E., II, 39; IV, 540; VIII, 61
- s'Jacob, J. C., I, 288, 291; II, 81; VIII, 1210; IX, 250, 251, 279
- Jacob, W. C., X, 823
- Jacques-Félix, H., V, 296; VI, 191; VII, 173
- Jacquot, A. C., IX, 751
- Jaczewski, A. A., VI, 976
- Jaentsch, W., VIII, 790
- Jaffray, A. B., V, 612
- de Jager, H., III, 362
- Jagger, I. C., VII, 895; VIII, 130
- Jagoe, R. B., II, 192; III, 250; IV, 649; V, 132; IX, 291
- Jahn, A., VI, 18, 673; VIII, 377
- Jakes, E., IX, 14, 735
- Jamaica, VII, 1114; IX, (726); X, 1575
- Jamaica Agricultural Society, X, 403
- Jamalainen, E. A., VII, 618, 913; VIII, 1068
- James, A. L., VIII, 800
- James, H. C., III, 240
- James, H. M., VI, 885
- James, M. F., V, 525
- Jameson, D. H., X, 35
- Jamieson, C. A., X, (1335)
- Jamison, F. S., VIII, 1005
- Janashiya, A. L., VI, 899
- Jancke, O., II, 249; III, 335; V, 234
- Janert, H., IV, 623
- Janes, B. E., IX, 1353
- Janssens, P., I, 92
- Japan Times, IX, 408
- Jardine, F. L., VI, 722; IX, 1195
- Jarry-Desloges, R., VII, 45; VIII, 568; IX, 1031
- Jary, S. G., II, 242, 243; III, 361; IV, 415, 416; V, 654; VI, 500, 526; VII, 655, 675, 694, 703; IX, 484, 504, 532, 543, 905, (928), 937; X, 1374
- Jastrzębska, W., VIII, 629
- Jayasundera, E. S., IX, 652
- Jefferies, J. H., VII, 707
- Jenkins, A. E., V, 277; VI, 128
- Jenkins, W. A., VIII, 1237
- Jenkins, W. J., VIII, 594
- Jennings, R. F., IV, 612
- Jenny, J., IX, 400; X, 386, 748
- Jepson, W. F., IX, 1439; X, 306
- Jerna, G., VII, 56
- Jersey, Président du Comité d'Agriculture, IX, 706
- Jessep, A. W., IV, 82
- Jewell, W. R., VIII, 285
- Jex-Blake, A. J., V, 745
- Jiminez, P. G., VIII, 220
- Joachim, A. W. R., I, 382; II, 384; III, 391, 403, 603; IV, 271, 468, 685; V, 142, 720; VI, 539, 603; VII, 784; VIII, 573, 1317; IX, 629, 652, 1334, 1379, (1483); X, 208
- Jochems, S. C. J., III, 387
- Jodidi, S. L., VIII, 1236
- Joessel, P.-H., VI, 732, 749; VII, 60, 887; IX, 874
- Johansson, E., I, 139, 160; III, 200, 494; IV, 590, 591; V, 178, 210; VI, 427; VII, 231, 563; IX, 763, 1443
- Johansson, J. E., III, 176
- John Innes Horticultural Institution, VI, 993; VII, 902; X, 437, 1576
- Johnpulle, A. L., VIII, 553; IX, 630
- Johns, R., IX, 641; X, 1169
- Johnson, A. M., VI, 587
- Johnson, E., II, 261
- Johnson, E. L., X, 25
- Johnson, F., X, 1083
- Johnson, G. C., X, 1038
- Johnson, G. V., IX, (1260)
- Johnson, J., VI, 623; VIII, 772
- Johnson, J. C., VII, 884
- Johnson, L. R., VII, 125; X, (1086)
- Johnson, P. R., VI, 368
- Johnson, S. C., VIII, 254
- Johnson, W. J. B., VII, 1094
- Johnston, F. B., X, 962
- Johnston, J. C., IX, 1343; X, 825
- Johnston, S., I, 129, 258; V, 31; VI, 712; VII, 919; IX, 1161, 1188, 1212; X, (950)
- Johnstone, K. H., I, 324, 355; VII, 788, 791, 792; IX, 346, 554; X, 424, 425, 426
- Joley, L., III, 326; VI, 658; VII, 290; X, 1314
- Joley, L. E., VI, 269
- Jones, A. P., VII, 369
- Jones, E. P., VII, 730; VIII, 1163
- Jones, G. A., III, 380
- Jones, H. A., II, 271; III, 73; IV, 86, 596, 602; V, 243; VI, 338; VII, 355, 377; VIII, 124, 463; X, 144, 1082
- Jones, H. L., X, 620
- Jones, H. N., X, 1182
- Jones, I. D., II, 224
- Jones, J. O., I, 153; X, 956, 957
- Jones, J. S., VII, 916
- Jones, L. H., I, 114; V, 334; IX, 940
- Jones, L. K., VI, 114, 297
- Jones, P., IV, 261
- Jones, P. H., IV, 268
- Jones, S. E., IX, 1480
- Jones, T. H., IX, 876

AUTHOR INDEX

- Jones, W. W., **VIII**, 873; **IX**, 376;
 X, 292, (158), (1542)
 de Jong, W., X, (1423), 1548
 de Jong, W. H., **III**, 568; **IV**,
 471, 472, 610; **VI**, 183;
IX, 267, 270, 271
 Joosten, J. H. L., **VIII**, 1190
 Jordan, E., **IX**, 1143
 Joshi, B. M., X, 1238
 Joshi, N. V., **IV**, 113
 Joslyn, M. A., **III**, 418; **IV**, 682;
 V, 154; **VIII**, 601; **IX**, 666,
 676, 1085; **X**, 1239
 Juliá, F., X, 1438, 1473
 Juliano, J. B., **II**, 291; **VI**, 387,
 403; **VII**, 465
 Jung, K., **IX**, 234
 Jurion, F., **VII**, 749; **IX**, 32

 Kaczmarek, A., **VIII**, 432; **IX**,
 464
 Kaden, O. F., V, 121, 124, 694,
 698; **VII**, 196, 221; **VIII**, 913
 Kadiura, M., **IV**, 538
 Kadota, T., **III**, 358; **V**, 24
 Kadow, K. J., **III**, 196; **V**, 651;
VI, 80; **VII**, 99, 689; **VIII**,
 744
 Kagawa, F., **IX**, 1362
 Kagy, J. F., **IX**, (1355)
 Kahawita, R., **IX**, 564
 Kains, M. G., X, 409
 Kakihara, K., **IX**, 1361
 Kalanty', M. S., **IX**, 1134
 'Kalebin, M. I., V, 314
 Kalichava, A. D., **VIII**, 1131
 Kalishevich, S. V., (847)
 Kalmykov, S. S., X, 1138
 Kalogereas, S., **IV**, 492
 Kalshoven, L. G. E., **IV**, 150;
VII, 199; **VIII**, 899
 Kaltenbach, D., **VIII**, 270, 271,
 582; **IX**, 1471
 Kamat, M. N., **VI**, 860
 Kaminsky, S., X, 579
 Kamyakowa, A. K., **V**, 200
 Kandiah, S., **IV**, 271; **V**, 142;
VIII, 573; **IX**, (1483)
 Kanerov, V., **IX**, 1247
 Kantaria, E. N., **VIII**, 226
 Kapuskasing, **IX**, 707
 Karasawa, K., **VIII**, (1123)
 Karling, J. S., V, 483
 Karmann, W., **IV**, 173
 Karmarker, D. V., **IV**, 526;
VIII, 273; **X**, 1238
 Karr, E. H., **VI**, 325
 Karraker, P. E., X, 1089
 Karsten, K. S., X, 824
 Karunaratne, C. R., **VIII**, 1222
 Kasahara, Z., X, 1280
 Kashchikina, M. I., **VIII**, 995
 Kassab, M. A., **VII**, 772; **X**, 221
 Katar'yan, T. G., **IX**, 203;
X, 639
 Katetov, V., X, 139
 Katz, J. F., **VIII**, 1007
 Katzer, A., **IX**, 1302
 Kaufmann, H. P., **X**, 402
 Kausche, G. A., **IV**, 276; **VIII**,
 739
 Kavka, B., **VIII**, 513
 Kearns, C. W., **IX**, 545
 Kearns, H. G. H., **II**, 257, 258;
III, 207, 208, 336, 346, 364;
IV, 392, 423; **VI**, 492, 502,
 503; **VII**, 353, 661, 663, 668,
 676; **VIII**, 756, 764; **IX**, 495,
 870, 890; **X**, 864, 993, 1008,
 1009
 Keeble, F., **II**, 210; **IV**, 2;
V, 977
 Keiller, P. A., **VIII**, 210; **X**, 236
 Keitt, G. W., **VIII**, 94, 446, 1048;
X, 539
 Kell, W. V., **VII**, 107
 Keller, B. A., **VI**, 854
 Kelley, A. P., **IX**, 1163
 Kelley, J. N., **VIII**, 898
 Kelley, V. W., **I**, 156; **II**, 337;
VIII, 719; **IX**, 807
 Kelley, W. P., **III**, 161; **IV**, 511
 Kelly, D. F., **VIII**, 795
 Kelly, E. C., **IX**, 671
 Kelsall, A., **IX**, 496, 1258
 Kemmer, E., **I**, 351; **III**, 8;
IV, 330, 358; **V**, 163, 201;
VI, 265; **VII**, 24, 555;
VIII, 372, 664, 676, 721,
 1335; **IX**, 1160, 1174, 1189
 Kemp, E. E., **VII**, 267, 413
 Kemp, H. K., **X**, 532
 Kench, J. E., **IX**, 53
 Kendrick, J. B., V, 69
 Kennedy, M. H., **VI**, 334
 Kenneth, J. H., **X**, 408
 Kent, W. G., **V**, 49; **VII**, 319
 Kentville, **IX**, 708
 Kenworthy, A. L., X, 893
 Kenya, **VI**, 994; **VII**, 181;
VIII, 1340; **IX**, (726); **X**, 438
 Kenya Horticultural Society, V,
 745
 Kenya, Senior Coffee Officer,
VII, 192, 746
 Kenya, The Water Board, **IX**, 670
 Kerbosch, M., **I**, 286; **X**, 697
 Kerder, H., **VIII**, 274
 Kerimov, A., **VIII**, 197
 Kern, E., **IV**, 266
 Kerns, K. R., **I**, 406; **VII**, 477
 Kerr, H. W., **VIII**, 551
 Kerr, W. L., **VI**, 659; **VIII**, 368
 Kersting, F., **VIII**, 8
 Kertesz, Z. I., **IV**, 533, 679;
VI, 27, 416; **X**, 1071, 1254,
 1288
 Kervégant, D., **II**, 196; **VI**, 978;
VIII, 1336
 Kessler, H., **IV**, 135, 140, 670;
V, 303; **VIII**, 272, 1261;
IX, 436
 Kessler, O. W., **IV**, 215; **V**, 380
 Kessler, W., **IX**, 883
 Keuchenius, A. A. M. N.,
VIII, 842
 Kew, Royal Botanic Gardens,
VIII, (636)
 Keys, O. H., **IX**, 1470
 Keyworth, W. G., **IX**, 935
 Khachaturyan, S. A., **VIII**, 178
 Khaev, M. K., **IX**, (1515);
X, 599
 Khan, A. A., **X**, 1205
 Khanmai, M. A., **X**, (950)
 Khanna, K. L., **II**, 64
 Kharitonova, S. M., **X**, 1096
 Khashba, L. K., **X**, 131
 Khazina, E., **X**, 159
 Kheswalla, K. F., **V**, 706; **VI**,
 585
 Kholodny, N. G., *see Cholodny*,
 N. G.
 Kholodnyuk, I. K., **IX**, 1305
 Kholodnyuk, M. S., **X**, 1305
 Khomentovsky, G. I., **III**, 287;
IV, 321
 Khutshvili, G. Z., **VIII**, 823,
 1232
 Kibardin, R. E., **X**, 1142
 Kidd, F., **I**, 100, 198; **II**, 302;
III, 414; **IV**, 288, 290, 293;
V, 25, 496, 497; **VI**, 203, 935,
 940, 941, 942, 950, 951;
VII, 487, 1055, 1068, 1070;
VIII, 1265, 1266, 1268, 1269,
 1271, 1272, 1286, 1287, 1288,
 1289, 1305; **IX**, 1450, 1451;
X, 70, 321, 322, 323, 328, 329,
 330, 332
 Kidson, E. B., **X**, 960
 Kienholz, J. R., **VIII**, 95; **IX**,
 1220; **X**, 108
 Kikuta, K., **VIII**, 849
 Killick, A. B., **VII**, 194
 Kiltchevskii, A. L., **VI**, 35
 Kimball, D. A., **I**, 225; **III**, 304
 Kimball, M. H., **VIII**, 387
 Kimbrough, W. D., **VI**, 961;
VIII, 661; **IX**, 1269
 Kincaid, R. R., **IX**, 1306
 King, C. J., **IX**, 217
 King, G. E., **II**, 118
 King, H. C., X, 233
 King, J. R., **IX**, 226, 804
 King, M. E., **IX**, 445; **X**, 974
 Kinman, C. F., I, 38; **III**, 292;
V, 165; **VIII**, 27
 Kinnison, A. F., **VI**, 843
 Kinoshita, S., **X**, 1280
 Kiplinger, D. C., **IX**, (1121)
 Kirchner, H. A., **X**, 558
 Kirkham, V. H., I, 186
 Kirkpatrick, A. F., **V**, 451
 Kirkpatrick, H., **X**, 1279
 Kirkpatrick, T. W., **V**, 465
 Kirtbayia, Y. K., **IX**, 200, 210,
 585
 Kirton, **IX**, 182
 Kir'yakov, N. P., **VIII**, 613
 Kiryukhin, G., **VIII**, 813, 815,
 1202
 Kiselev, I. S., **X**, 1101
 Kiseleva, V. V., **X**, 1299
 Kisliuk, M., **X**, 1217
 Kislov, V. P., (847)
 Kissner, J., **IV**, 83; **IX**, 851
 Kivilaan, A., **VI**, 746; **X**, 971
 Klaas, H., **IX**, 925
 Klein, H. Z., **V**, 680; **VI**, 554;
VIII, 193; **IX**, 1350; **X**, 1421
 Klimenco, K., **X**, 191, 195
 Klimenko, K. T., **VIII**, 203;
IX, 222
 Klimenko, V. N., **IX**, 955

AUTHOR INDEX

- Klotz, L. J., I, 267, 294, 369; III, 485, 573; V, 97, 440; VI, 751; VIII, 186, 189, 1151; IX, 208; X, 198, 361, 642, 1417
 Klumpar, J., IX, (405)
 Klyushkin, P. A., X, 669
 Klyushnikova, M. I., VIII, 1143
 Knapman, C. E. H., IX, 906
 Knapp, A. W., IV, 117, 684; VI, 231; VIII, 914
 Knauer, W., VII, 771
 Knight, H., IV, 261
 Knight, L. D. M., II, 351; III, 310
 Knight, R. C., I, 58, 62; IV, 36, 170, 177, 182
 Knoche, W., X, 1436
 Knott, J. C., III, 424; IX, 1083
 Knott, J. E., VI, 782, 784; IX, 907, 912; X, 1049
 Knowles, F., X, 1042
 Knowlton, G. F., VIII, 106, 449, 451
 Knowlton, H. E., I, 147; II, 120; VI, 668; VII, 587
 Knowlton, K. R., X, 1137
 Kobayashi, A., VII, 843
 Kobel, F., I, 317; IV, 45, 534; V, 180; VIII, 159; IX, 58; X, 58, 496, 877
 Koch, D. E. V., VIII, 573
 Koch, L. W., III, 334; V, 602, 603; VI, 300; X, 1395
 Kochs, —, VI, 946
 Koechert, R. E., X, (1136)
 Koepfli, J. B., IX, 1114
 Koernicke, M., VI, 510
 Köhler, E., III, 39
 Kohman, É. F., I, 325
 Koidzumi, G., VIII, (1024)
 Kokhas', T., IX, 329
 Kokin, A. Y., IX, (167)
 Kokonov, M., VIII, 1293
 Kolesnik, I. D., IX, 811
 Kolesnik, L. V., VIII, 447
 Kolesnikov, A. I., X, 41
 Kolesnikov, V. A., I, 65; VIII, 1021
 Kolisko, L., VI, 979
 Kolodny, L., X, 1068
 Kolotov, D. G., VIII, 817
 Komissarov, D. A., IX, 11
 Kondo, I. N., X, 518
 Kondō, M., IX, 1385
 van Konijnenburg, E., IX, (1084)
 Konis, E., IX, 5
 Konstantinov, M. K., IX, 980
 Konstantinov, V. M., X, 1117
 Kooilaas, D. R., IX, 233, (1084); X, 268
 van Koot, Y., IX, 922
 Kopetz, L. M., X, 151
 van de Koppel, C., IX, 223
 Kordes, H., VII, 393; VIII, 62, 431
 Korotkova, Z. I., IX, 637
 Kortchenyuk, Y. T., VIII, 484
 Kosar, W. F., VIII, 1074; X, 154
 Kosemanoff, S. I., I, 121
 Kostina, K. F., VII, 785
 Kostina, V. N., VIII, 412
 Kostyk, P. P., VIII, 990
 Kosurukow, N., VI, 583
 Kotcherzenko, I. E., VI, 258
 Kotsonis, S., IV, 492
 Kovalev, N. V., X, (75), 480
 Kozhin, A. E., II, 46; X, 220
 Kozłowski, A., VII, 321
 Kraay, G. M., VIII, 298
 Kramer, P. J., VII, 268, 276, 872; VIII, 641; X, 466, (847)
 Krantz, J. C., VII, 509
 Krasheninnikov, N. A., X, 1145
 Krasinsky, N. P., IX, 341
 Krassinsky, N., VI, 123
 Kraus, E. J., VIII, 331, 332
 Kraus, J. E., VIII, 15; X, 594
 Krausche, K. K., VII, 389, 941
 Krauss, B. H., IV, 477; VIII, 880; IX, 649, 1046, 1047; X, 304, 305, (718)
 Krauss, J., III, 517; IV, 188
 Kreier, G. K., VI, 916; X, 698
 Kremer, J. C., VII, 292; IX, 1485
 Krengel, W., III, 351
 Krevchenko, L. E., X, 596
 Kreyer, G. K., VIII, 865
 Krickl, M., X, 143
 Kriel, J., X, 359
 Krijthe, E., VII, 816; VIII, 631; X, 494
 Krijthe, N., IX, 184, 953
 Krimpas, B., X, 941
 Krishnan, P. S., X, (765)
 Krishnaswamy, M. K., I, 277
 Krishnaswamy, T. K., X, (765)
 Krjukov, F. A., III, 426
 Kroemer, K., IV, 368
 van der Kroft, W. G., V, 553
 Kroker, F., VIII, 1314; IX, 1444
 Krone, B. P., V, 563; VII, 236; IX, 1286; X, 1393
 Kronenberg, H. G., VIII, 166
 Krug, C. A., IV, 448; VI, 164; IX, (1398); X, 689
 Krügel, C., IX, 745
 Kruckoff, B. A., VIII, 837
 Krumbholz, G., II, 222; VI, 19; IX, 764
 Krümmel, H., II, 119; V, 542; VI, 665; VIII, 677
 Kruzhalin, A. S., X, (1105)
 Kudryavtseva, A. A., X, 473
 Kuhlman, G. W., IX, 170; X, 1092
 Kühlwein, H., VIII, 375
 Kul'chitsky, V. V., IX, 758
 Kulkarni, N. T., VII, 1008
 Kunkel, L. O., III, 187; VI, 296; VII, 328, 329; VIII, 1058
 Kuntz, W. A., V, 453; IX, 580
 Kuntze, H. A., IX, 609
 Kuprianov, I., X, 1139
 Kusamitu, H., X, 1383
 Küthe, K., VI, 72; VII, 908
 Kutter, H., VIII, 146
 Kuzmenko, A. A., X, 1039
 Kuzmin, A. Y., X, 927
 Kuznetsov, P. V., IX, 411
 Kuznetsov, V. V., IX, 758
 Kvarazkhelia, T. K., I, 67, 135; IV, 635; V, 123
 Laborde, J., VII, 138
 Lacarelle, A., VI, 137; VII, 151
 Lacarelle, F., IV, 154; VI, 868; VII, 987
 Luckie, N. D., IV, 54
 La Cour, L., III, 378
 Ladds, T. W., VIII, 500
 Laffond, —, VIII, 465, 816
 Lafon, J., VIII, 1039
 Lagasse, F. S., II, 217; IV, 194; VI, 663; VII, 836
 Lagatu, H., III, 57, 321, 322, 323, 324; IV, 371; VII, 50, 53, 54, 310, 311; VIII, 1010, 1012, 1015; X, (83)
 Laibach, F., VII, 261
 Lakin, H. W., IX, 26
 Lal, B. N., VIII, 569
 Laland, P., II, 207
 Lall, G., V, 704; VII, 783
 Lal Singh, II, 60; VII, 783; VIII, 1247, 1319; X, 1205
 Lalykin, N. S., X, 1392
 Lamb, J., IV, 683
 Lamb, S. H., X, (674)
 Lambers, M. H. R., II, 175
 Lambert, A., V, 288
 Lambert, E. B., III, 515; IV, 92, 600; IX, 530, 927
 Lambourne, J., III, 408, 544, 561; IV, 264, 279, 653; VI, 372, 390, 393; VII, 212, 760, 1044
 Lamerson, P. G., X, 562
 Lamiman, J. F., IX, 215, (1260)
 Lamm, R., IX, 508; X, 1552
 Lamont, N., II, 286
 Lamotte, P., IX, 1394
 Landerholm, E. F., V, 530
 Landon, R. H., VII, 857; VIII, 894; X, 515, 1230
 Lane, R. H., IX, 369
 Lange, E. G., IX, (928)
 Lange, F. J., IV, 489
 Lange, K. P., I, 34, 70
 Lange, L., II, 249
 Lange Ossekampen, VII, 251; X, 1577
 de Langen, C. D., V, 117
 Langer, W., III, 340
 Langham, W., IX, 749
 Langlands, I., IV, 483
 Langord, L. R., V, 389; VI, 678
 Lansade, M., VII, 225
 Lanuza, E. A., IX, 1404, 1429, 1433
 Lanzoni, D., I, 333; V, 23
 Lapin, V. K., IX, 195, 220, 336
 Laptev, I. I., X, 130
 Largillier, H. J., VI, 460
 Largillier-Siebel, H. J., IV, 209
 Larina, A. K., IX, 606
 Larsen, J. A., X, (506)
 Larsen, V., X, 550
 Larson, A. O., IX, 158
 Larson, C. A., IV, 197; VIII, 991
 Larson, R. H., IV, 403; V, 644
 Larter, L. N. H., IV, 665; V, 726; VII, 224; IX, 646
 La Rue, C. D., VIII, 371; X, (460)
 Lathrop, F. H., IX, 1244

AUTHOR INDEX

- Latimer, L. P., II, 122; VII, 560,
 561, 562; VIII, 732; X, (921)
 Latta, R., IX, 959
 de Lattin, G., IX, 1192
 Latvia, Forest Department, IX,
 102
 Lauder-Thomson, I., IV, 565
 Laughland, D. H., X, 609
 Laughland, J., X, 609
 Laurence, B. M., VII, 278
 Laurie, A., VII, 950; X, 173,
 1106, 1260
 Lausanne, VIII, 1356; IX, 709
 Lavanchy, G., III, 172
 Lavruk, S., X, 1019
 Lavrychuk, I., VIII, 171
 Lavrychuk, I. I., IX, 1345
 Lawrence, W. J. C., IV, 159;
 V, 158; VII, 406, 1105;
 VIII, 361, 946; IX, 398,
 1086; X, (1114)
 Laycock, T., VI, 970
 Layzell, S. C., VIII, 1197
 Lazo, F. D., VIII, 251, 872
 Leach, J. G., IX, (893)
 Leach, L. D., IX, 1231
 Leach, R., III, 235, 236; IV, 116;
 VII, 743; X, 1176
 Leadbeater, M. R., VI, 86
 Leake, H. M., II, 375; III, 93,
 225, 378
 Leatherman, M., X, 1034
 Lebedev, A. N., VIII, 870
 Lebedeva, S. P., IX, 76
 Leckie, W. G., II, 198
 Lecointe, P., VII, 178
 Ledebower, M. S. J., VII, 890;
 X, 494, 1340
 Ledreux, A., III, 554
 Lee, F. A., VIII, 389; X, 1331
 Lees, A. H., V, 363
 van Leeuwen, A., IX, 275
 van Leeuwen, E. R., VI, 310
 Lefèvre, J., IX, 373, 1200
 Lefèvre, P., VI, 199
 Lefevre, P. C., X, 244
 Leggeri, G., X, 759
 Legros, J., II, 195; V, 275;
 VIII, 204, 205, 214, 229, 245
 Leib, E., VI, 652
 Leishman, E., VII, 288
 Leitch, I. C., VII, 263
 Lejeune, J. B. H., VI, 169
 van der Lek, H. A. A., III, 45;
 V, 11; VII, 816
 Lele, S. L., V, 144
 Lemaitre, R., IX, 1486
 Lemmon, P., VI, 630
 Lenander, S. E., X, 1552
 Lentner, A., VII, 115
 Lenin Academy of Agricultural
 Sciences, IV, 318; VIII, 347,
 633, 724; IX, 1513, 1514;
 X, 415, (1587)
 Leningrad, Institute of Plant
 Industry, VIII, 357, 796;
 X, (1587)
 Leningrad, Institute of Plant
 Protection, IX, 704, (1515)
 Lennartson, R. W., VII, 853
 de Leon, A. I., IX, 1074
- Leonard, E. R., V, 308; VI, 214,
 219, 220; VII, 235; VIII,
 678, 895, 897, 1257; IX, 1062,
 1472, 1476, 1477; X, 366, 367,
 369, 1236
 Leonard, M. D., VII, 90
 Leoncini, G., I, 104, 106, 107
 Leonian, L. H., VII, 820
 Leonoff, I. M., VII, 870
 Leonov, I. M., VIII, 365
 Lepa, P., X, 1489
 Leplae, E., IV, 622
 Leppan, H. D., VIII, 658
 Lermontov, M. A., VIII, 1301
 Leroy, J. V., VII, 748
 Lesley, J. W., VI, 113; IX, 920;
 X, 1308
 Lesley, M., IX, 920
 Leslie, W. R., X, 1021
 Lesnikovsky, G. M., IX, 888
 Lester-Smith, W. C., VII, 222,
 734; VIII, 209
 Le Sueur, A. D. C., VI, 465
 Lesyuk, E. A., VIII, 959
 Leuzinger, H., IX, 1236
 Levadoux, L., VIII, (1018); X,
 105, 942, (950)
 Lever, R. J. A. W., V, 293, 487
 Leverton, R. M., VII, 1083
 Levi, G., I, 107
 Levie, E. L., III, 259; IV, 278,
 687; VI, 954
 Levitt, J., VI, 737; VII, 871
 Levy, B. F. G., VII, 604, 610;
 IX, 433
 Levy, L., VII, 490
 Lewcock, H. K., V, 300; VIII,
 879, 1252
 Lewis, A. H., VIII, 775, 1093;
 IX, 1282, 1289
 Lewis, C. M., X, (847)
 Lewis, D., VII, 7; IX, 1150,
 (1187); X, 483, (1338)
 Lewis, E. P., V, 70; VI, 330
 Lewis, H. C., X, 1131
 Lewis, I. P., X, 93
 Lewis, M. R., V, 354; VI, 274
 Lezhava, V. V., VIII, 828
 Lidoyne, A., VI, 732; VII, 60
 Liebig, G. F., Jr., VIII, 184, 947;
 X, 1122
 Lierke, E., III, 302
 de Ligt, N. M., VII, 456; IX, 1396
 Lijftogt, G., X, 902
 Lijsten, R., VI, 52
 Lilleland, O., I, 347; V, 349;
 VI, 677, 688; VII, 849;
 X, 900, 912
 Lilly, J. H., VIII, (1072)
 Lilly, V. G., VII, 820
 Limasset, P., X, (1086)
 Lincoln, F. B., VI, 266; VII, 544,
 834; VIII, 969, 970; IX, 788;
 X, 859
 Lind, G., II, 349
 Lindblom, A., III, 338, 339, 347;
 IV, 576; IX, 478
 Lindenbein, W., VI, 510
 Linderman, R. H., III, 376
 Lindgren, D. L., VIII, 1172;
 IX, 213; X, 1156
 Lindner, R. C., V, 586
- Lindstrom, E. W., III, 356
 Line, C. W. J., X, 1407
 Linford, M. B., IX, 1381; X,
 (1510)
 Ling, A. W., IV, 80
 Link, C., VII, 952; X, 173
 Link, G. K. K., III, 185; VII,
 332; IX, 311; X, (821)
 Linsbauer, L., II, 211
 Liosin, M., VIII, 293
 Lipp, J. W., VI, 98; VII, 82
 Lisitsyn, D. I., X, 1102
 List, G. M., IX, 527
 Listo, E. M., VII, 903; IX, 1247
 Listo, J., VI, 99; VII, 903;
 IX, 1247
 Littauer, F., VII, 1078
 Little, V. A., VIII, 836
 Litvinov, L. S., X, 1062, 1065
 Liverage, V., VII, 193
 Livingston, N., VIII, 15
 Llanos, M., II, 294
 Lloyd, F. E., IV, 6
 Lloyd, J. W., V, 499; VI, 213,
 330; VIII, 779; IX, 909;
 X, (1086), 1227, 1381
 Lobanov, G. A., IX, 429
 Lobko, T. G., VIII, 1026
 Locke, S. B., VIII, 941; X, 16, 17
 Loconti, J. D., X, 1071, 1254
 Loehwing, W. F., VI, 429;
 IX, 403
 von Loesecke, H. W., I, 297;
 IX, 1488; X, 752
 Loew, O., VIII, 650
 Loewel, E. L., III, 41, 201;
 IV, 314; V, 225; VI, 483;
 VII, 94, 340; IX, 90, 98
 Logan, J. C., III, 16
 Löhniß, M. P., VIII, 925; IX, 463
 Lombard, T. A., VI, 847
 Long, E. M., IX, 1123, (1125)
 Long, H. C., IV, 303; VIII, 917
 Long, J. H., VI, 713; X, 929
 de Long, W. A., III, 163;
 VII, 326
 Longley, A. E., IV, 49
 Longley, L. E., VI, 808; IX,
 (1121); X, 860
 Longo, A., IV, 552
 Longrée, K., IX, 948
 Loo, S. W., X, 1283
 Loomis, W. E., V, 353; VI, 426,
 963
 van Loon, J., VIII, 797
 Lopatin, M. I., IX, 859
 Lopez, D. R., X, 1524
 Lord, E. L., I, 80; II, 168;
 III, 543
 Loree, R. E., V, 30; X, (516)
 Lorenz, O. A., IX, 1191
 Loschakowa, N., III, 67
 Losovsky, T. A., VIII, 965
 Lott, R. V., II, 237; VI, 680;
 VIII, 722
 Lotthammer, R., IX, 745
 Loucks, K. W., IX, 1194, 1460,
 1461
 Louisiana, X, 439
 Lowman, M. S., VIII, 836
 Lubatti, O. F., X, 1218
 Lubimenko, V. N., II, 5

AUTHOR INDEX

- Lucas, P. S., **IX**, 1505
 Luce, W. A., **IV**, 16
 Luckan, J., **VII**, 520
 Lucy, A. B., **X**, 241, 1442, 1445,
 1496, 1498
 Ludbrook, W. V., **X**, 1358
 Ludewig, K., **VI**, 801
 Ludwig, C. A., **X**, 830
 Lueck, R. H., **X**, 750
 Lugeon, A. R., **V**, 12
 Lukianov, N. I., **X**, 1062
 Lumsden, D. V., **VIII**, 158
 Lund, W. T., **IV**, 559
 Lundblad, O., **IV**, 573
 Lunn, W. M., **IX**, 537
 Luss, A. I., **II**, 45
 Luthra, J. C., **II**, 151
 Lutri, E. I., 580; **X**, 90
 Lüttgau, W., **VII**, 94
 Lutz, H., **IX**, 1205; **X**, (950)
 Lutz, J. M., **II**, 279; **III**, 596;
 IV, 291; **VI**, 739; **VII**, 621;
 VIII, 885, 887, 1277; **IX**, 1059
 Luxford, K., **VIII**, 508
 Luyten, I., **III**, 80; **V**, 80;
 VII, 145, 702; **VIII**, 165,
 1120; **IX**, 952, 954
 Lyle, E. W., **IX**, 178; **X**, 1110
 Lynch, L. J., **VI**, 414
 Lyon, A. V., **II**, 336; **VII**, 631
 Lysenko, T. D., **X**, 1379
 Lyubochko, O., **IX**, 55

 Maas, J. G. J. A., **VI**, 890
 Maath, P. C., **X**, 499
 Mabbun, P. N., **X**, 1208
 Mabry, J., **VII**, 984
 MacArthur, M., **IX**, 1169; **X**, 954
 McCallan, E. A., **X**, 672
 McCallan, S. E. A., **VII**, 327;
 IX, 491, 492
 McCallum, R. D., **IV**, 597
 MacCance, R. A., **VI**, 6; **X**, 769
 McCann, L. P., **VII**, 544
 McClean, A. P. D., **V**, 421
 McCleery, F. C., **X**, 207
 McClelland, G. L., **VIII**, 591
 McClelland, T. L., **III**, 267;
 V, 692
 McClintock, J. A., **VI**, 264;
 X, 819, 873
 McCollum, J. P., **IX**, 909;
 X, 1381
 McComb, A. L., **X**, 832
 McCool, M. M., **II**, 334
 McCormick, A. C., **IV**, 356
 McCowan, J. D., **IX**, 615
 McCown, M., **X**, 891
 McCrory, S. A., **IX**, 498; **X**, 1375
 McCubbin, E. N., **IV**, 406;
 X, 1040
 McCue, C. A., **VI**, 683
 McCulloch, L., **II**, 396
 McCulloch, L. P., **VIII**, 1296
 McCutcheon, W., **VI**, 224, 280,
 415
 McDaniel, E. I., **VI**, 132
 MacDaniels, L. H., **I**, 59, 141;
 III, 487; **IV**, 60, 568; **VII**,
 567; **VIII**, 760; **IX**, 887;
 X, 880
 McDonald, J., **II**, 129; **X**, 433
 McDonald, J. A., **III**, 357, 400,
 401, 402, 557; **IV**, 463, 464,
 465, 466; **V**, 120, 477, 478,
 479, 480, 481; **VI**, 577, 578,
 611, 969; **VII**, 1030, 1031,
 1032, 1033; **VIII**, 1340
 McDonald, S. L., **X**, 67
 McDonell, G. H., **X**, 750
 MacDougal, D. T., **IX**, 196
 MacDowall, R. K., **IX**, 503
 Macea, F. S., **IV**, 125
 McElhinney, J. B., **VII**, 720
 McGeorge, W. T., **V**, 264;
 VI, 842; **X**, 1127, 1385
 MacGillivray, J. H., **IV**, 139;
 VI, 960; **VIII**, 483; **X**, (1086),
 1517
 McGregor, C. J., **V**, 681
 McGregor, E. A., **IV**, 441
 McGregor, G. M., **III**, 247
 McGuire, L. P., **I**, 411; **III**, 411,
 579, 604
 McHargue, J. S., **VII**, 933;
 X, 1290
 Macht, D. I., **VIII**, 626
 McIlvaine, H. R. C., **VIII**, 936;
 X, 809
 Mack, G. L., **VII**, 944
 Mack, W. B., **VII**, 370; **IX**, 1131;
 X, 135, 136, 839, 1390
 McKay, J. W., **IX**, 844; **X**, (950)
 McKay, R., **IV**, 398; **X**, 145
 McKee, H. S., **VIII**, (1292)
 McKee, R., **VII**, 107
 McKenzie, H. L., **V**, 460, 660;
 VI, 153; **VIII**, 192, 1161, 1172;
 X, 1156
 McKenzie, M. A., **VI**, 471
 McKinney, G., **VIII**, 64, 349
 McKinney, H. H., **X**, 462
 McKinnon, L. R., **I**, 347; **V**, 493
 McKinstry, D. W., **IX**, (173)
 MacLachan, R. J., **VIII**, 552
 MacLachlan, J. D., **VI**, 914
 Maclagan, J. F., **III**, 519
 McLarty, H. R., **III**, 333; **VI**,
 730; **VII**, 883
 McLean, H. C., **IV**, 302; **VIII**,
 (467), 762
 McLean, R. R., **IV**, 620
 McLellan, J. W., **X**, 63
 McLelland, C. K., **X**, 1396
 MacInnis, W. A., **VII**, 936, 1103;
 IX, 1446
 McLintock, J. A., **I**, 40; **VI**, 264
 Macluske, H., **IX**, 1438
 Macmillan, H. F., **VI**, 237
 McMillen, W. N., **IX**, 749
 McMunn, R. L., **II**, 30; **VI**, 686;
 X, (921)
 McMurtrey, J. E., Jr., **IX**, 161,
 389
 McNew, G. L., **V**, 604; **IX**, 472
 Macoun, W. T., **I**, 252, 427
 McPhail, M., **X**, 360
 Macpherson, N. J., **IX**, 507
 McPherson, W. K., **VIII**, 609
 McQuesten, L. M., **X**, 409
 McRae, W., **V**, 143
 McVeigh, W. J., **X**, 393
 Macvicar, R. M., **X**, 585
 McWhorter, F. P., **VIII**, 801
 McWhorter, O. T., **V**, 588;
 VII, 623
 Madden, A. H., **IX**, (547)
 Madden, G. D., **III**, 189
 Mäde, A., **IX**, 62
 Madel, W., **VII**, 397
 Mader, —, **IV**, 208
 Mader, E. O., **IV**, 566
 Madras, **VIII**, 1357, 1358, (1378);
 IX, 1536, (1544); **X**, 778, 779
 Madrid, V. J., **V**, 145
 Magee, C. J., **II**, 407; **VI**, 192,
 193, 397; **IX**, 297
 Magee, C. J. P., **X**, 716
 Magie, R. O., **VII**, 446; **IX**, 525
 Magielse, M. M., **IV**, 608, 609
 Magistad, O. C., **IV**, 661, 662;
 V, 298, 299; **VI**, 594; **IX**, 650
 Magness, J. R., **I**, 55, 237, 238;
 II, 238; **III**, 296; **IV**, 331;
 V, 165; **VI**, 40; **VII**, 882;
 VIII, 19, 20, 424, 735; **IX**, 813;
 X, 874, 880, 918
 Magoon, C. A., **I**, 68; **X**, (921)
 Magruder, R., **V**, 642; **VIII**, 125,
 127
 Magyar, G., **III**, 183
 Mahalanobis, P. C., **X**, (850)
 Maher, C., **VII**, 455; **X**, (1214)
 Mahoney, C. H., **V**, 424
 Maier, W., **VII**, 322; **X**, 574
 Maine, **VIII**, 1359; **IX**, 1537
 Makarov, D. D., **VIII**, 1127
 Makarova, K. N., **IX**, 618
 Makarovsky, A. F., **IX**, 521
 Makashvili, V. A., **VIII**, 829
 Maki, S., **X**, 948
 Malaya, **VIII**, (1378); **X**, 440,
 (450)
 Malaya, Rubber Research
 Institute, **II**, 420; **VI**, 999;
 IX, 710, 1413, 1414, 1416,
 1417; **X**, 230, 276, 278, 281,
 283, 284, 288, 406, (407), 441,
 677, 701, 702, 703, 1200,
 1201, 1202
 Malcolm, D. H., **VII**, 402, 403
 Malcolm, J. X., **X**, 1300
 Malençon, G., **IV**, 474
 Malenotti, E., **VII**, 73
 Malherbe, I. de **V**, 452
 Malhotra, R. C., **II**, 20
 Malik, S. A., **X**, 290
 Malins-Smith, W., **I**, 182, 391
 Malivaiko, Y. S., **X**, 1099
 Mallamaire, A., **VI**, 163; **IX**,
 1045
 Mallik, A. K., **VIII**, 642; **X**, 26
 Mallis, A., **VIII**, 457
 Mallison, E. D., **V**, 148; **VII**,
 767; **IX**, 317
 Mallock, J. G., **IX**, 327
 Mally, C. W., **IV**, 531
 Malta, **VIII**, 458; **IX**, (1544)
 Manaresi, A., **I**, 333, 352; **II**, 27;
 IV, 39; **V**, 23; **VIII**, 1016,
 1030; **IX**, 89, 1159; **X**, 71
 Manchesian, J. T., **IX**, 323
 Mancini, E., **VIII**, 155
 Mandelson, L. F., **VII**, 401;
 VIII, 1156

AUTHOR INDEX

- Maney, T. J., VI, 661; VII, 641, 835; VIII, 277; X, (921), 1347
 Mangel, N. R., X, 1439
 Manion, J. T., IX, 648
 Mann, C. E. T., I, 10, 399; III, 563; V, 708; VII, 461
 Mann, C. W., VI, 406
 Mann, H. H., II, 281; III, 545; IV, 695; IX, 1256
 Mann, M., IV, 238
 Manning, D., VIII, 1119; IX, 507
 Manning, W. E., IX, 453, 1204
 Manske, R. H. F., VII, 263
 Manson, A. D., IX, 168
 Manuel, H. L., III, 58; IV, 54
 Manville, J. A., VII, 1063
 Manzoni, L., IX, 450, 848, 939
 Mappes, F., VIII, 778
 Marangoni, P., X, 1095
 Marani, M., VII, 28, 822, 842, 877; VIII, 33, 37, 1034, 1061; IX, 71, 1170; X, 1001
 Marassi, A., X, 1166
 Marcel, M., VIII, 1096; IX, 1279
 Marcelet, H., VII, 247
 Marchal, P., VIII, 112
 Marcucci, G. B., IX, 1368
 Marcus, A., V, 278
 Margar'yan, A. E., VIII, 822
 Margolin, A. P., VIII, 971; IX, 52
 Marianno, C. O., V, 136
 Marinucci, M., VIII, 195
 Markham, E., VI, 235
 Markley, K. S., I, 242; II, 415
 Markov, V. M., X, 1392
 Markovitch, V. V., II, 76
 Markwood, L. N., IX, (1260)
 Marloth, R. H., II, 293; III, 88, 128; V, 155; VI, 360;
 VII, 704; IX, 216, 569, 1354; X, 1408
 Marmoy, F. B., IX, 1289
 Marneffe, —, IX, 1197
 Marques de Almeida, C. R., VIII, 631, 994; X, 845
 Marsais, P., IV, 382; VIII, 444; X, 106
 Marschke, G., VI, 105
 Marseille, O., VI, 685; VII, 15
 Marsh, G. L., III, 418; IV, 682; VIII, 601; IX, 666, 1085
 Marsh, P. B., X, (1086)
 Marsh, R. H., VI, 870, 875
 Marsh, R. S., VI, 693; VII, 585; IX, 814
 Marsh, R. W., II, 251; III, 330, 331; IV, 378; VII, 352, 663; VIII, 764; IX, 490, 863; X, 977, 1013
 Marsh, T. D., III, 233, 548; VI, 589; VII, 213, 1013
 Marshall, G. E., VIII, (1072); X, 996
 Marshall, G. W., IV, 425; IX, 1359
 Marshall, J., IV, 462; V, 627; VI, 311, 324; VII, 77; VIII, 763; IX, 889
 Marshall, L. C., VII, 990
 Marshall, R. E., I, 249; II, 301; III, 28; IV, 40; VI, 281; VII, 104, 915; IX, 1157, 1485
 Marshall, R. P., II, 13
 Marshall, T. H., V, 285; VIII, 1193
 Mart, P. C., V, 347; VIII, 337, 933; IX, (1121); X, 891, (921)
 Martin, D., V, 44, 494; VI, 208, 209; VIII, 583
 Martin, E., X, 1007
 Martin, E. J., VIII, 901
 Martin, G., I, 293
 Martin, H., II, 242; III, 35, 199; IV, 380, 387; V, 226; VI, 82, 502, 613; VII, 350, 676; VIII, 756, 761, 764, 1071; IX, 495, 890, 891, 1255; X, 567, 993, 1008, 1261, 1374
 Martin, J. T., I, 157; V, 55, 56; VI, 81; VII, 675; IX, 1255, 1256; X, 1011
 Martin, W. E., VII, 293; VIII, 333, 580; X, 202, 1127, 1231
 Martin, W. M., VII, 506
 Martinez, J. R., III, 122
 Martinez, R. S., V, 140
 Martinez Alvarez, M., VI, 59
 Martyn, E. B., IV, 426
 Masefield, G. B., IX, 1006
 Maslennikov, A. V., IX, 608, 1363
 Mason, A. S., IX, 660
 Mason, F. R., VI, 929; VII, 471
 Mason, I. C., X, (950), 1341
 Mason, M., X, 1251
 Mason, T. G., X, 1298
 Masot, J., VIII, 369
 Massa, L., IV, 444
 Massachusetts, VIII, 1360
 Massee, A. M., II, 137, 259; III, 203; IV, 227, 395; V, 214, 235; VI, 478, 489, 498; VII, 519, 637, 654, 902; VIII, 748, 752, 755; IX, 106, 115, 445, 867, 872, 873; X, 976, 990
 Masselin, J., VII, 89
 Massey, L. M., VI, 128; X, 621
 Massey Agricultural College, IX, 1538
 Masure, M. P., VIII, 987; IX, 1063
 Mather, K., VII, 549
 Mathews, I., V, 446; VI, 849; VII, 444
 Mathews, O. R., VII, 629
 Mathewson, A. A., IX, 590
 Mathiesen, A., X, 970
 Mathieu, G., VIII, 1081, 1311; X, 37
 Mathur, P. B., VII, 484; IX, 1064
 Matkovsky, S. T., IX, 157
 Matskevich, V. B., X, 465
 Matskov, F. E., IX, 1132
 Matsumoto, K., II, 166; X, 735
 Matsuo, S., X, 78
 Matthew, A., VII, 968
 Mattras, H., VII, 47
 Matubara, S., I, 336; X, 948
 Matula, E., III, 18
 Matzke, E. B., VI, 633
 Maublanc, A., IV, 451, 452
 Mauerhan, C. J., X, 1135
 Maume, L., III, 57, 321, 322, 324; IV, 350, 371; VII, 50, 53, 54, 310, 311; VIII, 1010, 1011, 1012, 1015; X, (83)
 Maurer, E., V, 326; VI, 535, 655; IX, 339
 Mauri, G., IX, 1030; X, 18
 Mauri, N., IX, 197, 967, 1030; X, 18
 Mauritius, IX, (726); X, (1589)
 Maximov, N. A., VIII, 320
 Maxwell, J. M., VIII, (467)
 Maxwell, K. E., VIII, 191
 May, P. R., III, 565
 Mayer, M. I., IX, 1080
 Mayfield, H. L., X, 1521
 Mayne, W. W., II, 283; III, 550, 555; VII, 1023; VIII, 1361; X, 260
 Mazoe Citrus Experimental Station, III, 528; VI, 995; VII, 786; X, 773
 Mazzaron, A., V, 656, 657; VI, 770; VII, 948
 Meader, E. M., X, (921)
 Meadly, G. R. W., VIII, 1176
 Meahl, R. P., X, 799
 Medical Research Council, X, 769
 Mehltitz, A., I, 376
 Mehrlich, F. P., V, 184
 Mehta, P. R., X, 112
 Meier, K., V, 181; VIII, 275, 972; IX, 39, 68; X, 488, 523, 533, 958
 Meier, N. F., X, (563)
 Meijer, T. M., X, 1194
 Meijers, P. G., X, 827
 Melville, A. R., X, 1182
 Melville, R., IV, 408; V, 247; VII, 934; IX, 524
 Memetov, A., IX, 471
 Menagarishvili, A. D., VIII, 828
 Menchikowsky, F., V, 442
 Mendel, K., IV, 432; VII, 155, 432; VIII, 1140; IX, 971; X, 632
 Mendes, A. J. T., X, 689
 Mendiola, N. B., IV, 8; X, 704
 Mengersen, F. G., IX, (938)
 Mentzel, F., III, 505
 Menzel, K. C., VI, 83, 763
 Meppen, D., VIII, 228
 Mer, C. L., X, 841
 Merabian, S. G., VI, 898
 Mercado, T., IV, 626; X, 248
 Mercanton, M. P. L., IX, 1209
 Mercer, S. P., II, 145; VIII, 916
 Merkle, F. G., IX, 1182; X, 502
 Merrill, S., X, (950)
 Merrill, T. A., VII, 918; X, 511, 880, (921), (950)
 Merritt, J. M., VIII, (1072)
 van der Merwe, C. P., III, 202; IX, 241
 van der Merwe, C. R., II, 143
 Meshchok, B. I., IX, (1427)
 Metalnikof, S., X, 565
 Metcalf, F. P., X, 508
 Metcalfe, C. R., X, 4
 van Meter, R. A., VI, 713
 Metlitsky, L. V., VIII, 1082; X, 374, 379
 Metlitzky, S. A., IV, 166; V, 200

AUTHOR INDEX

- Metters, F. H., VII, 427
 Metzger, F. W., IV, 584; V, 238; VI, 758; VII, 81, 82
 van der Meulen, A., VII, 145; IX, 1020
 Meyer, B. S., IX, 380
 Mezzetti, A., VIII, 1053; X, 640
 Mgaloblishvili, S. V., X, 638
 Michelbacher, A. E., IX, 105, 156
 Micheli, A., X, 45
 Michener, H. D., IX, (369)
 Michigan, IX, (726)
 Micklem, T., V, 364; VI, 650; VII, 287; VIII, 985; IX, 424; X, 906
 Middleton, H. E., V, 1
 Middleton, J. T., IX, (893)
 Miedzyrzecki, C., II, 329; IV, 186; V, 19; VI, 137; VII, 151
 Miège, E., V, 68; VIII, 1088; IX, 993
 Milad, Y., VII, 721
 Mildner, H. B., IV, 323
 Miles, E. L., VI, 931
 Miles, H. W., III, 205; IV, 76; V, 239, 413; VII, 142
 Miles, M., VII, 363
 Miller, C. D., VII, 754; VIII, 199
 Miller, D., VII, 365; X, 1005
 Miller, E. V., III, 123; VI, 937, 947; VIII, (1164); X, 358, 1120, 1222, 1232
 Miller, J., VIII, 603
 Miller, J. C., VIII, 661; IX, 603, 613; X, (670), 1154
 Miller, J. T., IX, 26
 Miller, L. P., IV, 240, 605
 Miller, M. F., VIII, 651
 Miller, N. C. E., IV, 577; VI, 905; X, 1491
 Miller, P. R., IX, 1233, (1234)
 Miller, P. W., III, 190; IV, 223; V, 217, 592; VI, 734
 Miller, R. L., III, 223, 373
 Miller, R. W. R., I, 384
 Millikan, C. R., VI, 131
 Milne, G., VIII, 1205
 Milner, E. M., IX, 996
 Milsum, J. N., I, 190; III, 233, 548, 561; IV, 282, 647; V, 685; VI, 889; VII, 710, 738; VIII, 217, 234, 565, 606; IX, 283
 Minarik, C. E., X, 1080
 Minderhoud, A., I, 144
 Minister for Agriculture, New South Wales, VII, 204
 Ministerie van Economische Zaken, Holland, Directie van den Landbouw, VIII, 793, 1264; IX, 878
 Ministry of Agriculture, London, I, 416, 426; II, 306; III, 179; IV, 202, 234, 235, 241, 499, 500, 693; V, 309, 324, 373, 508; VI, 238, 420, 421, 699, 774, 996; VII, 249, 633, 787-92; VIII, 416, 434, 510, 701, 725, 771, 785, 799, 923, 924, 1310; IX, 320, 321, 343, 344, 345, 487, 1093; X, 125, 420, 421, 423, 428, (1588)
 Minnesota, IX, (726)
- Minor, E. C. K., VIII, 243
 Minor, F. W., X, 830
 Minster, J. T., VI, 601
 Mirimanian, V. A., VIII, 181
 Misserova, A. M., IX, 103
 Mitchell, J. H., IX, 1437
 Mitchell, J. S., VI, 230
 Mitchell, J. W., IV, 528; VII, 384; VIII, 333, 334, 486; IX, 1118, (1121); X, 800, 801
 Mitchell, P., VI, 931
 Mitchell, R. S., VII, 764; X, 1210
 Mitchell, W. K., X, 1209
 Mitchurin, I. V., IX, 762, 769, 770, 771, 772, 793, 794, 810, 950, 1087; X, 1268
 Mitra, G. P., VII, 526
 Mitra, S. K., X, 1554, (1589)
 Mitropolskaya, M. V., X, 685
 Miyazawa, B., VIII, (1203)
 Mkrtchian, V. S., X, 583
 Moen, O., II, 359; III, 350; IV, 588, 589; VIII, 75, 1101; IX, 43
 Moerdyk, J. L., IV, 464
 Moffett, A. A., II, 12, 323; IV, 518; V, 14
 Mohammad, A., III, 407
 Möhringer, K., III, 54
 de Mol, G. A., IV, 275
 de Mol, W. E., VI, 529; VIII, 520; IX, (960)
 Molegode, W., III, 558; IX, 628; X, 249, 1170
 Molinari-Salés, E., X, 1438, 1473
 Molisch, H., VIII, 920; X, 1262
 Moliard, M., VIII, 1080
 Molodozhikov, M. M., IX, 1412
 Moltzau, R. H., VIII, 874; IX, 640, 1495
 Momot, K. G., VI, 537; IX, 995, 1412; X, 699
 Monakina, T. A., X, 475
 Monro, G., VIII, 499; X, 1085
 Monro, H. A. U., IX, 308
 Montgomery, H. B. S., V, 220; 224; VI, 504, 505; VII, 667, 669; VIII, 100
 Montserin, B. G., VIII, 564
 Montserrat, X, (450)
 Moody, F. O., X, 398, 1539
 Moog, H., II, 266; III, 479; IV, 51, 203; V, 205
 Moon, H. H., V, 375, 426; VI, 257; VIII, 593, 911, 1277; IX, 612, 616, X, 146, 147
 Moore, A., VIII, 566
 Moore, C. N., IV, 151; V, 258
 Moore, D. C., IX, 644, 1039
 Moore, E. S., X, (1400)
 Moore, G. T., X, 2
 Moore, H. I., VII, 369
 Moore, J. A., VII, 430
 Moore, J. B., VIII, (467), (1072); X, 998
 Moore, J. C., II, 229; IV, 34
 Moore, J. E., X, 884
 Moore, J. G., VI, 707
 Moore, M. H., III, 42, 191, 192; IV, 65, 220, 232; V, 220, 224; VI, 303, 505; VII, 650, 667, 669; VIII, 100, 765; IX, 100, 494, 862; X, 980, 986, 1374
- Moore, N. P., VI, 729; VIII, 1037
 Moore, R. H., VIII, 572
 Moore, W. C., IX, 550; X, 427
 Moore, W. D., IX, 535
 Moquillon, —, X, 246
 Morden, IX, 711
 Moreau, L., VII, 55; VIII, 1051
 Moreira, S., VIII, 1152
 Morel, R. C., IX, 1078
 Moreland, C. F., IX, 1274
 Moreno, A. A., II, 366
 Moretti, A., X, 71
 Moretti, A., III, 23; IV, 15, 18; VIII, 26, 1174; IX, 943, 989, 991; X, 57, 216, 1111, 1151
 Morgagni, E., X, 219
 Morgan, A., V, 400
 Morgan, A. F., I, 206
 Morgan, E. T., IX, 1129
 Morgan, N. D., X, 1140
 Morgan, W. L., IV, 414; VI, 115
 Morley Davies, W., IX, 898
 Morocco, Comité Pomologique, X, 44
 Moroz, E. S., IX, 204, 574; X, 1126
 Morris, A. A., III, 534; V, 262; VIII, 1138, 1154
 Morris, C. C., IX, 322
 Morris, H. E., IV, 35, 77
 Morris, H. F., VIII, 712
 Morris, H. M., V, 403; VII, 653
 Morris, L. E., II, 288
 Morris, O. M., III, 31; VI, 277; X, 915
 Morris, T. N., II, 303; VII, 1086; VIII, 289, 1307, 1308; X, 336, 371, 372, 390, 756
 Morris, V. H., III, 158; IX, 126
 Morrison, G., V, 71; IX, 151
 Morrison, W. W., VI, 409
 Morrow, E. B., IX, 825; X, (950)
 Morstatt, H., V, 696; VII, 195; VIII, 232
 Mortensen, E., VIII, 714; IX, 74; X, 1345
 Morton, J. W., III, 27, 611
 Morwood, R. B., VIII, 1036; IX, 1221
 Moscow Agricultural Exhibition Committee, X, (418)
 Moses, B. D., VIII, 1032
 Moshkov, B. S., VIII, 81; X, 29
 Moskalenko, S. S., X, 616
 Moss, E. G., IX, (547)
 Mossop, M. C., IX, 1358
 Mostafa, M. A., IX, 551
 Mote, D. C., IX, (1260)
 Motte, J., III, 75; V, 457
 Mottern, H. H., VII, 1095
 Motz, F. A., I, 200
 Mouat, H. M., X, 487
 Mounce, F. C., II, 35; III, 50
 Mounts, B. T., II, 355; III, 50
 Moutia, A., V, 607
 Movchan, S. D., X, 1100
 Mowry, H., II, 393; III, 586; V, 682; X, 174
 Moyer, L. S., IX, 392
 Moyse, W. J., IX, 507
 Mozgovoy, Y. G., VIII, 103
 Mozzette, G. F., X, 1362

AUTHOR INDEX

- Mrak, E. M., I, 210; II, 203
 Muckenhirn, R. J., VII, 368
 Muenscher, W. C., VI, 532; VII, 10
 Mufti-Zade, S., X, 1173
 Muggeridge, J., III, 507; X, 557
 Mulay, A. S., I, 239; II, 128
 Mulder, H. H., VIII, 1207
 Mulder, R., II, 415
 Mulford, F. L., VIII, 158; X, (188), (618)
 Mullard, S. R., IX, 393; X, 848
 Mullendore, N., VI, 337
 Müller, A. S., V, 251
 Müller, G., IX, 1211
 Müller, H., X, 107
 Müller, H. J., IV, 372
 Müller, H. R. A., V, 488; VI, 840; IX, 986, 1348, 1386; X, 706, (1214)
 Müller, K., VII, 900; IX, (1260)
 Müller-Stoll, W. R., VIII, 630; IX, 834; X, 530
 Mulligan, B. O., II, 273; III, 360; IV, 400
 Mullison, W. R., IX, 1283
 Mumford, E. P., I, 159
 Mumford, H. W., VIII, 1353; X, 777
 Muncie, J. H., IX, 1266
 Mundinger, F. G., VII, 361; VIII, 450
 Mundy, H. G., II, 314
 Munger, F., IX, (1260)
 Mungomery, R. W., V, 633
 Munro, H. K., VI, 90; VII, 84
 Munsell, H. E., II, 267; III, 55; VI, 334
 Munson, R. G., IX, 863
 Murer, H. K., IX, 1083
 Murneek, A. E., I, 241, 245; III, 16, 22, 466; V, 522; VI, 667, 670; VII, 35, 841; VIII, 652, 696, 705, 787; IX, 1179; X, 844, 891, 911, 1289, 1332, 1546
 Murphy, E., VI, 271
 Murphy, L. M., X, 893
 Murphy, P. A., VI, 773
 Murray, C. W., IX, 125, (1234)
 Murray, D. B., X, 1467
 Murray, G. H., X, 1440
 Murray, R. K. S., II, 83; III, 567; IV, 122; V, 129, 709; VI, 581; VII, 753; IX, 268, 269, 276, 277, 635; X, 285, 287, 1485
 Musbach, F. L., IV, 599; VII, 394
 Muscatello, G., X, 206
 Muskett, A. E., II, 144; VIII, 392
 Musser, A. M., X, 904
 Muth, F., III, 434; VIII, 353
 Mutovkina, T. D., IX, 1016
 v.d. Muysenberg, E. W. B., VII, 528
 Myazdrikova, M. N., VIII, 1300; X, 316
 Myers, A. T., X, (921)
 Myers, C. E., III, 151
 Myers, M. C., IX, 365
 Mysore, II, 421; IV, 283; VI, 423; VII, 1024; VIII, 246, 311, 1361, (1378); IX, 1383, (1544)
 Nadaraya, G. B., VI, 845; IX, 1347
 Nadel, M., VI, 841; IX, (754)
 Nadolya, I. K., VIII, 207
 Nagaharu, U., III, 78
 Nagao, M., VIII, (943); IX, (1121)
 Nagasawa, C., X, 60, 882
 Nagy, R., IX, 858
 Naik, K. C., II, 130, 277; X, 190
 Nakashiba, K., X, 78
 Nambu, H., II, 163
 Namikawa, I., III, 92
 Nanking, X, 791
 Napier, R. P. N., II, 184
 Narasimhaswamy, R. L., X, 691
 Nassonov, V. A., VIII, 72
 Nast, C. G., V, 576
 Nath, P., IX, 1268
 National Institute of Agricultural Botany, Cambridge, X, 1044, (1589)
 National Research Council of Canada, VIII, 305, 1347; X, (431), 432, 780, 1266
 Natividade, J. V., III, 271; VIII, 663; IX, 1153; X, 652, (852), 856, 910, 928, 1255
 Natsentov, D. I., IX, 131
 Natrass, R. M., V, 395; VI, 216; VIII, 921; IX, 312
 Naudé, C. P., II, 44; X, 643
 Naudé, T. J., IV, 262
 Naumova, A. N., IX, 20
 Naundorf, G., VIII, 5; IX, 3, 4, 1113
 Navarro, A. F., II, 125; III, 168
 Naylor, A. W., X, 843
 Nazimov, V. N., IX, 1017
 Neal, W. M., V, 743; IX, 1507
 Neary, M. E., X, 1369
 Nebel, B. R., II, 14; III, 21, 288; IV, 533; V, 177; VI, 27, 452; VII, 29, 291; X, 881
 Nebraska, VIII, (1378); IX, (1544); X, (1589)
 Nedolya, I. K., X, 667
 Neergaard, P., VI, 777
 Neff, M. S., VI, 963; X, 179
 Nègre, E., VII, 243, 244; X, 938, 1243
 Negrul', A. M., VI, 459; VII, 863; VIII, (715); X, 518
 Nehru, S. S., IV, 152
 Neilson, J. A., III, 3; V, 575
 Neiswander, R. B., VII, 80; VIII, 1063
 Nel, R. G., VIII, 585
 Nel, R. I., VII, 657
 Neller, J. R., I, 307
 Nelson, E. K., III, 217; IX, 1489
 Nelson, E. M., II, 54
 Nelson, R., III, 602; VI, 335
 Nelson, R. C., VIII, 279; X, 370, 728
 Nelson, R. H., VII, 147, 424
 Nemiritsky, B. G., IX, 214
 Nesterenko, P. A., X, 619
 Nesterova, V. C., VIII, 1303
 Nettles, V. F., IX, 1263
 Neubauer, H. F., VI, 618; IX, 72
 Neuer, H., VI, 511
 Neuteboom, J. D., VII, 750
 Newcomer, E. J., III, 503; IV, 73; V, 624; VII, 674
 Newell, J., VIII, 946; IX, 1086
 Newell, W., X, (648)
 Newhall, A. G., VI, 106; X, 1048
 Newman, J. E., VI, 34
 Newman, L. J., VI, 22
 Newrzella, B., X, 828
 Newsome, L., V, 349
 New South Wales, VIII, 1312; IX, 768, (1094); X, 68
 New South Wales, Fruitgrowers' Federation, X, 442
 New South Wales, Minister of Agriculture, VII, 204
 Newton, D. E., IV, 535
 Newton, H. C. F., VII, 920
 Newton, W., III, 524; VII, 390, 391; VIII, 519; X, 187
 New York State Horticultural Society, IX, 712; X, 781
 New Zealand, II, 96; VIII, 1363; X, 443, 1578
 New Zealand, D.S.I.R., II, 97; III, 274; IV, 308; VI, 997; VII, 250; VIII, 1362; IX, 761; X, 444, 445, 1579
 Nichols, A. F., V, 91
 Nichols, P. F., I, 20; II, 297; III, 608; VI, 972
 Nichols, R. F. W., VIII, 1254; IX, 651
 Nickels, C. B., VIII, (467)
 Nicol, H., VIII, 1337; X, 1545
 Nicolaisen, N., III, 353; VII, 693
 Niederl, J. B., VIII, 898
 Niehaus, C. J. G., IX, 672, 675, (677)
 van Niekerk, S. W., IX, 1198
 Nielsen, J. A., I, 123
 Niemann, C., VI, 636; VII, 296
 Niethammer, A., I, 4; III, 15
 Nigam, B. S., III, 499
 Nigeria, III, 229; VIII, 1364; IX, 713; X, 782
 Nightingale, A. A., VI, 116; VII, 124
 Nightingale, G. T., III, 69, 513; IV, 196, 528; VI, 14, 533; IX, 391
 Niizu, N., IV, 538
 Nikiforov, V. P., IX, 1346
 Nikita State Botanical Gardens, Yalta, X, 416, 671, 771
 Nikitin, A. A., VI, 750; VII, 910
 Niklas, H., I, 272
 Niklas, O. F., IX, 1249
 Niklewski, B., VI, 643; VIII, 9, 639
 Nikolaev, N. F., X, 1302
 Nikol'sky, V. L., IX, 219, 481
 Nilov, V. I., VIII, 346
 Nixon, E. L., VI, 740
 Nixon, M. W., V, 167; VI, 106

AUTHOR INDEX

- Nixon, R. W., **IV**, 657; **V**, 489; **VI**, 927; **VII**, 761; **IX**, 644, 1436
 Noble, N. S., **VI**, 130, 867; **X**, 101, 650
 Noble, R. J., **V**, 593, 594; **X**, 101
 Noble, W. M., **VII**, 802
 Noguchi, Y., **IV**, 443
 Nolte, A. J., **X**, 752
 Nombrot, A., **VI**, 234
 Norbury, C. P., **IX**, 1078
 Norfolk County Council, **VI**, 788
 Norman, A. G., **VII**, 400; **VIII**, 157
 Noro, K., **IV**, 536, 537; **V**, 433
 Norris, F. W., **IX**, 696
 Norris, R. K., **IV**, 389
 Norris, R. V., **II**, 65; **III**, 99, 232; **IV**, 629
 North Carolina, **IX**, 714, 1539
 Northern Rhodesia, **VIII**, (1378); **IX**, (1544); **X**, (1589)
 Notcutt, R. C., **V**, 429
 Notcutt, R. F., **V**, 429
 Notini, G., **X**, 571
 Notley, F. B., **III**, 241; **VI**, 378; **X**, 1183
 Nouri, O., **IX**, 225
 Nova Scotia Fruitgrowers' Association, **X**, 1580
 Nowell, W., **IV**, 112
 Nowosad, F. S., **X**, 585
 Nuccorini, R., **I**, 72, 73, 74
 Nunnink, F. C., **X**, (1587)
 Nusbaum, C. J., **VIII**, 1048
 Nutman, F. J., **I**, 385; **V**, 125, 286, 688; **VII**, 182, 457, 739, 997, 1019, 1020; **VIII**, 1195; **X**, 1319
 Nyasaland, **IX**, (726), (1544)
 Nye, G. W., **X**, 1180
 Nyenhuis, E. M., **II**, 205
- O., F. W., **II**, 80
 Oakley, M., **VII**, 509
 Oberdoerffer, M. J., **VIII**, 239
 Oberholzer, P. C. J., **IX**, 1337
 Obermayer, E., **IX**, 137
 O'Brien, D. G., **VIII**, 654
 O'Brien, T. E. H., **VII**, 1036; **VIII**, 242; **X**, 405
 Ocfemia, G. O., **IV**, 627; **IX**, 1010
 Ochse, J. I., 218, 219; **II**, 63; **V**, 115; **X**, 1548
 O'Connor, B. A., **X**, 1502
 O'Connor, R., **III**, 242; **IV**, 263
 Odell, F. D., **II**, 190; **VII**, 179
 Odland, M. L., **VIII**, 1073
 Odland, T. E., **IV**, 402; **IX**, 1277; **X**, 1064
 Oelker, G., **II**, 27
 Oertel, A. C., **IX**, 753
 Oertel, E., **X**, 876
 l'Office Fédéral de Guerre pour l'Alimentation, Suisse, **X**, 1531
 Offutt, E. B., **X**, 1290
 Ogg, W. G., **III**, 138
 Ogilvie, L., **II**, 250, 273; **III**, 360, 497; **IV**, 373, 400; **V**, 392, 412, 418; **VI**, 347, 488, 514, 519, 523; **VII**, 687; **VIII**, 770, 786; **IX**, 550, 864, 895, 913, 934; **X**, 19, 808, 1084
 Ohio, **IV**, 506; **IX**, (1544)
 Oinoue, Y., **VI**, 461, 462, 463; **VII**, 594, 733; **VIII**, 718, 989; **IX**, 736, 835, 836
 Ojala, E. M., **IX**, 514
 Okulov, A. P., **VIII**, 830
 Olan, V. R., **VIII**, 882
 Old, A. N., **IX**, 1357
 Oldham, C. H., **VIII**, 416
 Olds, G. D. P., **III**, 227; **IV**, 133; **V**, 741; **VI**, 417; **VII**, 765
 O'Leary, K., **VI**, 955
 Oleinik, G. Y., **X**, 849
 Oliveira, J. M., **X**, (1510)
 Oliver, R. W., **IX**, 17, 174, 737
 Oliver, M., **VI**, 945
 Olmo, H. P., **V**, 206; **VI**, 716; **X**, 934
 Olson, R. A., **X**, (1284)
 Oltarzhevsky, N. P., **X**, 115
 O'Neill, W. J., **VIII**, 762, (1072); **IX**, (1260)
 Ôno, S., **X**, 1287
 Onsdorff, T., **VIII**, 603
 Onslow, M., **IV**, 289
 Oortwijn, B. J., **III**, 359
 Opitz, K., **IX**, 1311, 1313
 Oppenheimer, J. D., **II**, 162, 165; **III**, 89; **VI**, 557, 597; **VIII**, 523
 Oppenheimer, C., **VI**, 550; **IX**, 639; **X**, 1320
 Oppenheimer, H. R., **IV**, 432; **V**, 261; **VI**, 362, 841; **VIII**, 637, 1140, 1144; **IX**, 971; **X**, 1418
 Opsomer, J. E., **II**, 280; **III**, 246; **VII**, 1012; **VIII**, 208; **IX**, 244; **X**, 1320
 Oraman, N., **IX**, (838)
 Orchard, E. R., **X**, 1295
 Orchard, H. H., **VII**, 288
 Orchard, O. B., **III**, 177; **IV**, 422; **VIII**, 151, 163, 1116; **IX**, 1315; **X**, 1028
 Orgas, A. M., **VIII**, 262
 Orian, G., **VIII**, 843
 Orman, A. C., **III**, 511
 Orsenigo, G., **IX**, 939
 Orth, H., **X**, 607
 Orton, E. C., **X**, 1532
 Osborn, H. T., **VIII**, 147
 Osburn, M. R., **VI**, 98; **IX**, 583, 586; **X**, (648), 1132
 Oserowsky, J., **II**, 127; **III**, 454; **IV**, 180; **IX**, 467
 Osida, M., **VII**, 186
 Oskamp, J., **II**, 324; **III**, 153, 451; **IV**, 547; **V**, 561; **VII**, 577; **IX**, 64
 Osmond, A., **VII**, 576
 Osnitskaya, E. A., **X**, 605
 Ostendorf, F. W., **I**, 396; **II**, 78; **III**, 244, 245; **IX**, 254; **X**, 267
 Osterwalder, A., **V**, 303; **X**, 386, 967, (1258)
 Ostlind, N., **IX**, 763
 Otanes, F. Q., **VII**, 211
 Otero, J. I., **V**, 388; **VI**, 66; **VIII**, 85, 87, 544; **X**, (1378)
 Otsuka, Y., **X**, 100
 Ott, M., **VII**, 809
- Ottolander, W. T., **VIII**, 858
 Otuka, Y., **III**, 14, 284
 Ounsworth, L. F., **IX**, 315; **X**, 592
 van Overbeek, J., **VIII**, 326; **X**, 456, (460), 474, 814, 1277
 Overholser, E. L., **I**, 143, 259; **II**, 123, 124, 226, 238; **III**, 184, 416; **IV**, 390; **V**, 21, 552; **VI**, 696; **VII**, 488, 619, 874; **VIII**, 655, 681; **IX**, 1083; **X**, 897, 1017
 Overley, F. L., **I**, 143; **II**, 28, 123, 124, 238; **III**, 475; **IV**, 390; **V**, 552; **VI**, 322; **VII**, 874; **VIII**, 655, 681; **X**, 897, 1017
 Owen, O., **VIII**, 1076; **IX**, 503, 1253
 Owen, R. C., **III**, 535; **VI**, 850
 Oyler, E., **VI**, 822; **VII**, 958; **VIII**, 783, 1107, (1123); **X**, 1027
 Ozerov, G. V., **VI**, 627; **VIII**, 240, 1226; **X**, 1318, 1474
 Ozirsky, V. I., **VIII**, 610
- P., A., **IX**, 620
 P., E., **X**, 528
 Pachev, A. G., **VIII**, 1129
 Pacumbaba, P. O., **X**, 679
 Paech, K., **IX**, 1445; **X**, 1215
 Pagden, H. T., **V**, 293
 Page, A. B. P., **X**, 1218
 Page, F., **IX**, 1173
 Page, H. J., **IX**, 1423
 Paguirigan, D. B., **VII**, 108, 454; **IX**, 1012, 1013
 Paikin, D. M., **IX**, 211
 Paillé, M., **I**, 256
 Paillot, A., **V**, 595; **VIII**, 1069; **X**, 1000
 Paine, R. W., **V**, 292, 721
 Painter, A. C., **I**, 151; **V**, 305; **VI**, 268, 595; **VII**, 768, 769; **X**, 819
 Painter, J. H., **X**, 1143, (1158)
 Pal, B. P., **VII**, 1015; **IX**, 994, 1268; **X**, 724
 Palestine, **IV**, 147; **VII**, 1115; **VIII**, 185, 1365; **IX**, 1096; **X**, 1581
 Palilov, N. A., **VIII**, 1301; **X**, 739
 Palilov, N. I., **X**, 589, 739
 Palleson, A., **X**, (506)
 Palmer, A. E., **VII**, 106
 Palmer, D., **V**, 459; **VI**, 878
 Palmer, D. F., **VI**, 152
 Palmer, E. F., **I**, 28; **VIII**, 716
 Palmer, R. C., **I**, 202, 408; **II**, 9, 320; **III**, 165; **IV**, 27; **VII**, 554; **VIII**, 314
 Palmiter, D. H., **VIII**, 94
 Palmquist, E. M., **VIII**, 644
 Palo, M. A., **VII**, 479; **X**, 680
 Panditsekere, D. G., **VIII**, 573; **X**, (208)
 Panshin, A. J., **VIII**, 838
 Papisov, P. I., **IX**, 1338
 Paponof, N. V., **I**, 359
 Parbery, N. H., **V**, 96
 Pardy, A. A., **III**, 32
 Parham, B. E., **III**, 43

AUTHOR INDEX

- Parham, B. E. V., **IX**, 295, 303
 Parham, M. A., **VI**, 395
 Parham, W. L., **IX**, 228
 Park, M., **II**, 193; **III**, 580;
IV, 640, 654; **VII**, 1037;
VIII, 221, 236, 537; **IX**, 630,
 653; **X**, 251
 Parker, E. R., **III**, 119; **IV**, 427,
 439, 613; **V**, 95, 268; **VI**,
 848; **VII**, 168, 978, 979, 980;
VIII, 532, 811, 1151, 1153;
IX, 602; **X**, 192, 636, 1122
 Parker, H. H., **IV**, 493
 Parker, J. R., **IX**, 1250
 Parker, K. G., **III**, 490; **IV**, 522;
X, 536
 Parker, M. M., **V**, 416; **VI**, 811;
X, 1058
 Parker, M. W., **VIII**, 335;
IX, (1125)
 Parker, O., **IX**, 217
 Parker, R. G., **II**, 121
 Parker, R. L., **X**, 562
 Parker-Rhodes, A. F., **X**, 1276
 Parks, H. B., **VIII**, 662
 Parmelee, F., **VIII**, (1072)
 Parmentier, A., **IX**, 1486
 Parodi, E., **VI**, 151; **VII**, 197
 Parodi, L., **IX**, 748
 Parris, G. K., **VIII**, 849; **IX**, 1041
 Parrott, P. J., **IV**, 69
 Parsons, T. H., **I**, 298; **II**, 290,
 373, 374; **III**, 95, 228, 381,
 385; **V**, 280, 715; **VI**, 384;
VII, 150; **VIII**, 862; **IX**, 1003,
 1052
 Partridge, N. L., **I**, 17, 261;
II, 126; **VIII**, 700
 Pascual, A., **II**, 412; **VII**, 303;
VIII, 194; **IX**, 190, 191;
X, 627, 628, 629, 949
 Pashkevich, W. W., **II**, 106
 Pashkewitch, W., **I**, 343
 Passeecker, F., **I**, 21; **VII**, 283,
 828
 Pastac, I., **V**, 329, 401
 Pataraya, S. I., **IX**, 1393
 Patent Office, Washington, D.C.,
VII, 799
 Paterson, A. W., **IV**, 639
 Paterson, D. D., **IV**, 507
 Paterson, W. G. R., **X**, 1006
 Paterson, W. Y., **IX**, 515
 Path, J., **VII**, 165
 Patrick, S., **IX**, (938)
 Paul, M., **X**, 1323
 Paul, W. R. C., **III**, 516; **VI**, 158;
VII, 174, 215, 756, 758;
VIII, 237, 238, 248, 571;
IX, 617, 629, 630, 652; **X**, 271
 Paulian, G., **VI**, 140
 Paulson, W. E., **VI**, 245
 Pavlov, I. P., **X**, 1022
 Pavlov, N. V., **VIII**, 244
 Pavlova, N. M., **VIII**, 55, (715)
 Pavlychenko, T. K., **VII**, 557
 Peacock, N. D., **IX**, 827
 Pearce, G. W., **VI**, 320
 Pearce, S. C., **X**, 124
 Pearl, R. T., **I**, 60; **II**, 107, 218;
III, 285; **VI**, 449
 Pearsall, W. H., **I**, 149
 Pearse, H. L., **VII**, 122, 566, 827;
VIII, 2, 516, 743; **IX**, 776,
 1098; **X**, 7, 74
 Pearson, O. H., **IV**, 338
 Pedersen, A., **III**, 143
 Pederson, C. S., **VII**, 245, 1097,
 1098; **IX**, 678
 Peebles, R. H., **VII**, 598
 Peech, M., **V**, 526; **VIII**, 42;
IX, 976
 le Pelley, R. H., **VII**, 356
 Penman, F., **VI**, 853
 Pennington, C. E., **VII**, 798
 Pennsylvania, **VIII**, (1378); **IX**,
 37, (726); **X**, 447
 Pennsylvania State Horticultural
 Association, **IV**, 310; **X**, 783
 Pentzer, D. J., **VI**, 719
 Pentzer, W. T., **II**, 228; **IV**, 569;
VI, 936; **IX**, 317, 1218;
X, 1517
 P.E.P., **VIII**, 1380
 de Peralta, F., **VII**, 108, 454;
IX, 1012, 1013
 Percher, G., **X**, (1258)
 Percival, G. P., **III**, 209
 Perera, E., **IX**, 1003
 Pereverzov, G. A., **X**, 668
 Perlberger, J., **I**, 377; **IV**, 616;
VI, 553; **VII**, 166; **VIII**, 1050,
 1152; **IX**, 965; **X**, (128)
 Perrotti, R., **X**, 469
 Perry, E. O. V., **II**, 188; **IV**, 473
 Persson, G. R., **VIII**, 670
 Perzelan, J., 1421
 Pescott, E. E., **V**, 13, 359;
VIII, 1019
 Pescott, R. T. M., **VI**, 94
 Petch, C. E., (1260)
 Petch, T., **II**, 319
 Petering, H. G., **X**, 880
 Peters, G., **V**, 103
 Petersen, A., **X**, (751)
 Peterson, W. H., **VI**, 229; **IX**,
 858
 Petherbridge, F. R., **III**, 492, 509;
VIII, 1094; **IX**, 898
 Pethybridge, G. H., **V**, 75, 77;
VII, 131
 Petri, L., **IV**, 304; **X**, 114
 Pettit, R. H., **III**, 504
 Petty, B. K., **VIII**, 452; **X**, 1157
 Petyaev, S. I., **VII**, 871
 Petyayev, S. J., **II**, 72
 Peynaud, E., **VIII**, 1328
 Pfaff, C., **VII**, 811
 Pfeiffer, N. E., **VII**, 419
 Pfeil, E., **X**, 538
 Phillips, E. F., **III**, 465
 Phillips, E. P., **V**, 274; **X**, 127,
 577
 Phillips, H. T., **IV**, 514
 Phillips, T. G., **I**, 240
 Phillips, W. R., **VIII**, 1103;
IX, 302, 308, 1452; **X**, 1514
 Phillips, E., **X**, 1298
 Philp, G. L., **II**, 220; **IV**, 181;
VII, 532; **VIII**, 387
 Philpott, M. W., **VII**, 1038
 Richard, G., **II**, 21
 Pickett, A. D., **X**, 1369
 Pickett, B. S., **X**, 1330
 Pickett, W. F., **VI**, 762; **VII**, 568;
X, 893
 Pickford, P. T. H., **V**, 313, 515;
VI, 418
 Pickles, A., **VIII**, 1191, 1198;
X, 1168
 Piddesden, J. H., **IX**, 259, 332
 Pidoplichka, M. M., **X**, 979
 Pieper, H., **IX**, 1312
 Pierce, W. C., **IX**, 486
 Pieres, R. B., **VI**, 866
 Pieri, A., **IX**, 778
 Pieris, H. A., **III**, 403; **IV**, 468;
X, 308
 Pieris, W. I., **IV**, 645; **IX**, 1029
 Pieris, W. V. D., **IV**, 284; **V**, 719;
VIII, 256, 257; **IX**, 1528
 Pietsch, A., **IX**, 1309
 Piguet, G. A., **VIII**, 429; **IX**, 448
 Pile, A., **X**, (1086)
 Pilling, M., **I**, 149
 Pillnitz an der Elbe, **II**, 312; **VI**,
 998
 Pillsbury, A. F., **VII**, 158
 Pimanova, A. S., **VIII**, 1262;
X, 316
 Piper, A., **II**, 350
 Piper, C. S., **VII**, 616; **X**, 1351
 Pirone, P. P., **III**, 514
 Pirovano, A., **II**, 315, 330;
V, 571; **VII**, 19; **X**, 520
 Piskarev, V. I., **VII**, 825; **IX**, 41
 Pitcairn, A., **IV**, 153; **VII**, 988;
X, 40
 Pitcher, R. S., **VI**, 524; **VII**, 694;
IX, 484
 Pitman, G., **VI**, 29
 Pittier, H., **VI**, 167
 Pittman, H. A., **V**, 391; **VI**, 850,
 851
 Pittman, H. A. J., **VI**, 302
 Pizer, N. H., **IX**, 473, 531
 Plagge, H. H., **I**, 101, 146;
V, 302; **VII**, 641, 835;
VIII, 277
 Plakidas, A. G., **VIII**, 96
 Plank, H. K., **VI**, 101
 van der Plank, J. E., **III**, 375;
V, 738; **VI**, 542; **VII**, 1052;
VIII, 587; **IX**, 1454, 1466,
 1467, 1468, 1469, 1473, 1474,
 1475, 1482; **X**, 327, 346, 347,
 353, 356, 359, 363, 1234
 Plant, W., **IX**, 362; **X**, 1272
 "Planter," **IX**, 622
 v.d. Plassche, A. W., **III**, 136
 Platenius, H., **IV**, 594, 676;
X, 373, 1523
 Plessetsky, P. F., **IX**, 918
 du Plessis, I. P. J., **III**, 144
 du Plessis, S. J., **III**, 197; **IV**, 595;
V, 45, 737; **VI**, 482, 747;
IX, 474, 475, 1224, 1462;
X, 117, 118, (546)
 Pletchen, G., **VIII**, 956
 Plummer, C. C., **V**, 717; **VIII**,
 1192
 Podluzhny, L. F., **IX**, 1042
 Poe, C. F., **VII**, 508
 Poe, E. E., **VII**, 491
 van der Poel, J., **III**, 386
 Poenicke, W., **VIII**, 918

AUTHOR INDEX

- Poesch, G. H., VII, 953; X, 1106, 1260
- Pokrovskaya, A. C., II, 325, 343
- Pokrovsky, W. N., VI, 898
- Polacco, F., X, 88
- Poland, G. L., IX, 648
- Pole Evans, I. B., I, 205; III, 132
- Polhamus, L. G., V, 289
- Poliakoff, N. K., I, 56
- Pollacci, G., I, 178; X, 1014, 1033, 1095, 1519
- Pollitt, C., VII, 348
- Pomeroy, C. S., II, 216; III, 87; IV, 104, 105, 257; V, 94; VI, 543; VII, 285; VIII, 1167
- Pomeroy, D., VII, 500
- Pomeroy, G. S., IX, 375
- Pontis, R. E., X, 97
- Poole, A. L., VIII, 460
- Poole, C. F., VIII, 121
- Poole, R. F., V, 619; VI, 761
- Poona, Professor of Agriculture, V, 161
- Poor, M. E., VIII, 168
- Poore, H. D., I, 419; V, 316
- Pope, W. T., I, 99; V, 256; VI, 371
- Popenoe, W., VI, 869; X, 301
- Popoff, V. P., III, 306
- Popov, I. F., VI, 902
- Popov, V. P., VIII, 74
- Popov, V. V., VIII, 1181
- Popova, A. I., IX, 1238
- Popova, G. M., X, (226)
- Popova, Z. T., VIII, 422
- Popp, H. W., VIII, 936; IX, 23; X, 809
- Porte, W. S., VI, 343
- Porter, A. M., VI, 793; VII, 931
- Porter, D. R., IV, 48; VIII, 423, 483; X, (1086)
- Portères, R., VI, 162, 200; IX, 1023
- Portsmouth, G. B., VII, 929
- Posnette, A. F., VIII, 1219; X, 1185, 1190
- Post, K., IV, 417; VI, 816; X, 1032
- Postma, A., VI, 170
- Potapenko, J., X, 1310
- Potapenko, Y. I., VIII, 968; IX, 1155; X, 463, 517, 935
- Potter, C., VII, 1075; X, 1160
- Potter, G. F., I, 240; II, 8, 101; III, 209; IV, 346; VII, 574, 628; VIII, 710, 730; IX, 850; X, (1158)
- Potter, J. M. S., VI, 709; X, 479, 930, 973
- Potter, J. S., III, 164
- Potter, M. T., III, 416
- Potter, N. A., X, 328, 330
- Potter, R. S., IV, 298
- Potter, T. I., II, 287; X, 1203
- Poultney, S. V., V, 152
- Pound, F. J., II, 389, 391; III, 395, 396, 397, 398; IV, 456, 457, 458, 459, 460; V, 470, 471, 472, 473; VI, 573, 574, 911; VIII, 235, 859; X, 1184, 1188, 1191
- Powell, A., X, 726
- Powell, C. L., V, 148; VII, 229
- Powell, H. C., I, 217; III, 83, 531; VI, 849; VII, 444
- Prain, D., X, 1549
- Prasad, H. H., VIII, 1054
- Prat, H., VII, 379
- Pratassenya, R. Z., VIII, 769
- Pratt, A. M., X, 1179
- Pratt, H. St. J., V, 341
- Pratt, R., IX, (369)
- Pravdolyubova, A. A., VIII, 612
- Preece, I. A., IX, 696
- Prendergast, D. T., VIII, 1162; IX, (1355)
- Prescott, J. A., IX, 845, 1035; X, 228
- Presley, J. T., VI, 538
- Prest, R. L., II, 48, 371; V, 673; VI, 139; VII, 426
- Preston, C., X, (1400)
- Preston, I., V, 663
- Preston, N. C., V, 72
- Prevost, P., VI, 622
- Price, C. V., V, 419
- Price, F. E., II, 321
- Price, J. R., IX, 398; X, (1114)
- Pridham, A. M. S., IV, 418
- Priestley, J. H., VI, 7
- Prillwitz, P. M. H. H., I, 90, 279; II, 68, 381, 383; III, 104
- Prinz, Y. I., IX, 109
- Prizer, J. A., I, 176
- Procopio, M., X, 1292
- Proebsting, E. L., III, 300, 473, 474; IV, 38, 345, 347; VI, 726; VII, 886; VIII, 394, 698
- Proofstation voor Rubber, Koffie en Tabak, Besoekisch, IX, 715; X, 1570
- Proofstation voor Vorstenlandsche Tabak, IX, 716
- Proofstation, West-Java, Director, VIII, 866
- le Progrès Agricole et Viticole, X, 81
- Prokhorova, N. T., X, (226)
- Proscurova, S. S., X, 1045
- Prosperi, V., IV, 553
- Protzenko, D. F., X, 1359
- Provan, J. L., III, 84, 219, 369; V, 85, 88, 102; VI, 546, 853
- Prozorovskaya, L. L., X, (226)
- Prunster, R. W., X, 1377
- Pruss, A. G., VIII, 819, 998
- Pruthi, H. S., VII, 1014
- Pubols, B. H., IX, 765
- Pučník, K., VIII, 44
- Puffeles, M., V, 442
- Pulley, G. N., VII, 512; IX, 1488
- Punjab, Director of Agriculture, V, 161
- Purvis, O. N., VI, 2; VII, 415; VIII, 517
- Pussard, R., VIII, 512
- Putterill, V. A., IV, 141, 678; VI, 215; VII, 435; VIII, 590, 886
- Pye, A. C., VI, 355
- Pyke, E. E., I, 392; II, 62; III, 399; IV, 119, 453, 454, 455; V, 126, 474, 475
- Pyl'nov, I. V., VIII, 1182
- Pynaert, L., III, 588; VI, 134; VII, 203
- Quarrell, C. P., VII, 11; IX, 351; X, 153
- Quayle, H. J., III, 120; IV, 440; V, 100, 101, 449; IX, 212; X, 1263
- Queensland, X, 784
- Queensland Acclimatisation Society, IX, 717; X, 785, 1582
- Quiatson, S. L., X, 1534
- Quinan, K. B., I, 342
- Quinn, D. G., VI, 58; VII, 501; IX, 83
- Quinn, G., I, 374; II, 37, 357; III, 425; IV, 253, 254; V, 338, 339, 340, 590; VII, 26
- Raabe, A., V, 249; X, (615)
- Rabak, F., X, 1090, 1398
- Rabat, Direction Générale d'Agriculture, VI, 142
- Raby, E. C., VI, 864
- Raby, J., IX, 54
- Racah, V., IV, 52
- Rae, R., VIII, 656
- Raeburn, J. R., IX, 1069
- Ragland, C. H., V, 186, 546
- Rahman, K. A. I., 25; VII, 904
- Raines, M. A., VIII, 646
- Rainio, A. J., VII, 956
- Rakitin, Y. V., X, 313
- Raktakanishta, X, X, 1204
- Raleigh, G. J., VI, 783
- Ralston, W., IX, 501
- Ramaer, H., I, 396
- Ramaley, F., V, 67, 519
- Ramanna, N., VI, 173
- Ramdas, L. A., VIII, 642
- Ramiro, M. P., X, 763
- Ramos, P., IV, 630
- Ramsay, A. A., I, 209
- Ramsey, G. B., III, 185; VII, 124; IX, 311
- Randell, S. E., IX, 470
- Randolph, U. A., X, 1345
- Rands, R. D., VIII, 848
- Ranga Rao, N. K., VI, 609
- Rangel, J. F., IX, 1349
- Rankin, W. H., III, 325
- Rao, Y. V., X, 1317
- Raphael, T. D., II, 341; III, 210; VII, 499; VIII, 78; IX, 1216
- Raptopoulos, T., X, 497
- Rasmussen, E. J., I, 54; X, (1020)
- Rasmussen, H. W., VIII, 1085
- Rasmussen, M. P., IX, 316, 1068
- Rasmussen, L., II, 90; III, 124
- Rasnizina, E. A., IX, 19, 20
- Rattray, J. M., VIII, 1283; IX, 1463, 1465, 1466, 1467, 1468, 1469, 1473, 1481, 1482; X, 344, 345, 346, 353, 355, 359, 363, 1234
- Raucourt, M., X, 1018
- Rauterberg, E., VII, 922
- Ravas, L., V, 569; VI, 51
- Ravikovich, S., VII, 889

AUTHOR INDEX

- Rawes, A. N., III, 48, 464; IV, 19, 89; V, 583, 643; VI, 41, 977
 Rawitscher, F., IX, (405)
 Rawl, E. H., VI, 697
 Rawlings, C. O., VII, 628; VIII, 732
 Rawlins, T. E., IV, 522; X, 535, 536
 Rayner, M. C., X, 831
 Raynor, R. N., X, 617
 Rayns, F., VIII, 917
 Read, F. M., I, 338, 349; II, 327, 328, 365; III, 156, 472; V, 85; VI, 36, 278
 Read, W. H., III, 177; IV, 422; VI, 820; VIII, 142, 151, 783, 1116; X, 1028
 Read, W. S., VI, 564
 Reafio, P. C., X, 1451
 Reavell, B. N., X, 1247
 Reavell, J. A., VIII, 290
 Rebours, —, VII, 59
 Rebours, H., X, 905
 Reck, G. F., VI, 84
 Redecker, W., VI, 655
 Redgrove, H. S., II, 173; X, 138
 Reece, P. C., IX, 1373; X, 1212
 Reed, C. A., VII, 312; VIII, 68; X, (950)
 Reed, H. M., IV, 485; IX, 198
 Reed, H. S., I, 370; IV, 183, 541, 615; V, 438, 447; VI, 143; VII, 168, 980; VIII, 733; IX, 196, 1215; X, 1394
 Reed, L. B., VIII, (467)
 Reed, R. H., VII, 673
 Reed, R. L., IV, 639
 Reed, T. W., VIII, (467)
 Reeve, J. O., X, 1119
 Reeves, E. L., II, 247; VI, 295; IX, (1234)
 Regeimbal, L. O., VIII, 735; IX, 813; X, 874, 918, (921)
 Reggio Calabria, IV, 694
 Rehm, W. S., VIII, 348
 Reichert, I., I, 377; III, 90; IV, 437, 616; VII, 166, 1078; VIII, 1152; IX, 965, 1032
 Reid, E. P., X, 920
 Reid, J. J., IX, (173)
 Reid, M. E., IX, 371
 Reid, W. D., VIII, 1157, 1158; IX, 154, 591
 Reifenberg, A., VIII, 294; IX, 1356
 Reilly, J., VIII, 795
 Reimers, F. E., IX, 509; X, 1056
 Reimers, F. S., X, 461
 Reinecke, O. S. H., I, 23, 341; VI, 437; IX, 466
 Reinecke, V., I, 350; VI, 48; IX, 1183
 Reinhold, J., I, 5; III, 71; V, 163; VI, 104, 105; IX, 153; X, 129
 Reissler, Y. V., X, 132
 Reiter, R., IX, 30
 Rekk, G. F., III, 204
 Renwick, M. E., VI, 446
 Repin, A. N., X, 597
 Reschke, J., VIII, 789
 Reuther, W., VIII, 824; IX, 177, 224, 422; X, (921), 959
 Revue Horticole Suisse, IV, 10
 Reyneke, J., IX, 1183, 1462; X, 116, 117
 Reypens, J. L., VII, 762
 Reznik, A., III, 277
 Rhind, D., VII, 751
 Rhiner, O., IV, 670
 Rhoads, A. S., VIII, 1149; IX, 579; X, 1128
 Riabov, I., I, 322
 Riabov, I. N., I, 138; VIII, 668; X, 484
 Ribéreau-Gayon, J., VIII, 1328
 Ricard, J. H., VIII, 522
 Ricchioni, V., VII, 823
 Ricci-Signorini, A., IV, 39
 Rich, A. C., X, 1241
 Richards, A. E., VI, 243
 Richards, A. V., VII, 152; IX, 566; X, (1240)
 Richards, M. C., X, 149, 540
 Richardson, E. G., IX, 1142
 Richardson, H. H., V, 254
 Richardson, J. E., VII, 1079; X, 1521
 Richardson, J. K., IV, 90; IX, 146
 Richey, H. W., IX, 1480
 Richharia, R. H., X, 696
 Richter, H., VII, 70; IX, 682
 Rickett, H. W., VI, 534
 Ricks, G. L., VI, 281
 Riebesel, G., V, 536
 Riehs, E., III, 459
 Rietsema, I., III, 24; VII, 890; IX, 406; X, 1340
 Rigg, T., V, 554; VII, 681; VIII, 45
 van Rijn, J. J. F. R., VII, 528
 Riker, A. J., IV, 376; VI, 481; VII, 336; VIII, 941; IX, 858; X, 16, 17
 Ringoet, A., VI, 968; VIII, 863
 Ripley, L. B., VI, 91, 149; VIII, 452; X, 1157
 Ripper, W., II, 253
 Rippertson, J. C., II, 172; VI, 377; IX, 640, 1495
 Risbec, J., VII, 458, 472
 Ritcher, P. O., VIII, (1072)
 Ritchie, T. F., X, 141
 Ritter, K., I, 318
 Riveros, J. E., IV, 551
 Rives, L., X, 459
 Rivière, G., II, 21
 Rivnay, E., VI, 555
 Roach, W. A., I, 133, 134; IV, 191, 192, 322, 349; V, 193, 194; VI, 454; VII, 295, 601, 602, 603, 604, 605, 606, 608, 610, 902; VIII, 1379; IX, 432; X, 894, 1391
 Roark, R. C., III, 342
 Robbins, R. C., VIII, 199
 Robbins, W. J., VI, 434; VIII, 625, 948; IX, 1108; X, 816, (1284)
 Robbins, W. R., VII, 938; X, 1068
 Robek, A., IX, 6
- Roberts, E., X, 8
 Roberts, E. A. H., IX, (668); X, (765)
 Roberts, F. M., X, (1086)
 Roberts, J. A., VIII, 600
 Roberts, J. L., X, 8
 Roberts, J. W., III, 194; IV, 333
 Roberts, O. C., IX, 1057
 Roberts, R. H., I, 230; II, 117; V, 365; VI, 259; VII, 136, 800, 832; VIII, 15, 344, 729, 954; IX, 1141; X, 30, 454, 1108
 Robertson, D. P., III, 70
 Robertson, J., VII, 172
 Robertson, P. L., IX, 1246
 Robey, O. E., V, 558
 Robinson, B. B., IX, 170
 Robinson, F. E., VII, 852
 Robinson, G. M., IX, 398
 Robinson, H. E., I, 83
 Robinson, K. L., IX, 1137
 Robinson, R., IX, 398
 Robinson, R. E., IX, 1448
 Robinson, R. H., II, 248; IV, 78; VI, 316, 323
 Robinson, T. R., II, 58; IV, 101; VIII, 169; IX, 588
 Robinson, W. O., VIII, 1025
 Robotham, C. M. A., VIII, 1135
 Robson, G., V, 265, 307
 Robyns, W., X, (674)
 Rochaix, J., VII, 309
 Röder, K., IX, 142, 915
 Rodionenko, G., VIII, 805
 Rodrigo, P. A., VII, 227; VIII, 882; IX, 1033, 1051; X, 148, 722
 Rodrigues, A., X, 931
 Rodriguez, G., V, 434, 479; VI, 576, 578, 933
 Roebuck, A., IX, 898
 Roeilosben, P. A., IX, 1399
 Roemer, T., VII, 289; VIII, 677, 680; IX, 1140
 Roger, L., IV, 451, 452; IX, 1044
 Rogers, W. S., I, 115, 164; III, 13, 154; IV, 175, 328, 329; V, 524, 539, 540; VI, 424, 425, 450; VII, 579, 580, 902; VIII, 417; IX, 420, 421, 445, 796, 797, 818
 van Roggen, M. A., VIII, 855; X, 253
 Rohrbaugh, P. W., IV, 109; V, 100, 105
 Roland, G., IX, 900; X, 1055, (1086)
 Rolfe, S. W., VI, 494; IX, 505
 Rolfs, C., I, 366, 367; II, 397; IX, 631
 Rolfs, P. H., I, 366, 367; II, 397; IX, 631, 632
 Romagnoli, M., III, 382, 577
 Romashenkov, D. D., X, 604
 Romberg, L. D., IV, 58; IX, 843; X, 85, 86, 1350
 Rome, International Institute of Agriculture, *see* International Institute
 Romeo, A., I, 361
 Romshe, F. A., IX, 1292

AUTHOR INDEX

- Rongo, V., X, 1534
 Roodenburg, J. W. M., I, 3;
 III, 65; VII, 306, 806
 Roof, L. R., II, 112
 Roos, K., X, 96
 Roscoe, M. V., IV, 22, 160
 Rose, D. H., III, 592, 596;
 IV, 291; VII, 234, 1073;
 IX, 1218
 Rose, F. T., VII, 412
 Roseau, H., VII, 717
 Rosedale, J. L., X, 720
 Rosen, H. R., VIII, (1072)
 Rosensfelds, R. S., IX, 1254
 Ross, W. A., IX, 443
 Ross, W. J., VI, 57
 Rothe, G., VI, 38
 Rotman, A., III, 216
 Rounds, M. B., V, 444
 Roussopoulos, M. N., III, 319
 Roux, E. R., X, 733, 1226
 le Roux, J. C., V, 506; VIII, 535;
 IX, 1339, 1371; X, 1152
 Roventini, A., VII, 38
 Rowe, S. C., VII, 504, 505
 Rowland, F. E., IX, 132
 Rowntree, B. S., IX, 342
 Roy, B., IX, 56
 Roy, H., VII, 58; VIII, 1020
 Roy, W. R., VIII, 1142
 Royal Agricultural Society, Denmark, Seed Committee, VIII, 468
 Royal Agricultural Society of England, IX, 349
 Royal Botanic Gardens, Kew, VIII, (636)
 Royal Horticultural Society, I, 110; X, 21, 46
 Royal Swedish Academy of Agriculture, X, 786
 Rozanova, M. A., X, (715)
 Rozet, B., IV, 156
 Rozgon, K. N., X, 158
 Rubber Research Institute of Malaya, II, 420; VI, 999;
 IX, 710, 1413, 1414, 1416,
 1417; X, 230, 276, 278, 281,
 283, 284, 288, 406, (407), 441,
 677, 701, 702, 703, 1200, 1201,
 1202
 Rubber Research Board, Ceylon, IV, 505; VII, 1116; VIII, (1378); X, (450), 1565
 Rubin, B. A., VIII, 588; X, (742)
 Rubtsov, G. A., VIII, 363
 Ruby (Colonel), X, 91
 Rudloff, C. F., I, 116, 223;
 III, 160; IV, 164, 340, 560;
 V, 47, 48, 598, 599; VI, 17;
 VII, 839; IX, 59, 425, 800,
 801
 Rudolph, B. A., IV, 558
 Rudorf, W., V, 66; X, 858
 Rudra, M. N., VII, 489
 Ruehle, G. D., V, 452, 453;
 VII, 276; IX, 580
 Rufener, W. W., IX, 766
 Ruggieri, G., V, 679; VIII, 1027,
 1133, 1134; IX, 1333
 Ruhmann, M. H., VII, 652
 Ruhnke, G. N., V, 538
 Ruiz, S. R., X, 1448
 Ruprecht, R. W., V, 38
 Rusch, F., IX, 1415
 Rusk, H. W., X, 573, (1378)
 Russell, G. A., VIII, 836
 Russell, G. T., I, 194
 Russell, J., X, 1291
 Russell, P., IV, 419
 Russell, R., VII, 853
 Russell, T. A., VI, 402
 Ruth, W. A., I, 50, 148; II, 337
 Rutherford, M. B., VIII, 291
 Ruttle, H. L., VII, 29
 Ruyle, E. H., X, 1254
 Ruys, J. D., X, 478
 Ryall, A. L., VIII, 694; IX, 657
 Rybin, V. A., VIII, 22, 25
 Rygg, G. L., VI, 838, 839;
 VII, 433; IX, 578
 Rygh, O., II, 207
 Ryndin, N. A., VI, 833
 Ryndin, N. V., X, 633
 Rzhevkin, A. A., IX, 988; X, 211
 S., G. W., VI, 267
 S., R. L., IX, 623
 Saanichton, B. Columbia, VIII,
 1366
 Sabet, Y., X, 1149
 Sabouroff, N. V., V, 314
 Schaffo, T., I, 345
 Sakimura, K., VIII, 881
 Sala, R. T., X, 385
 Salaman, R. N., VII, 684
 Salgado, M. L. M., VI, 391;
 VIII, 257, 549; IX, 1529;
 X, 235, 712, 1500
 Saliba, F., IV, 549
 Salisbury, E. J., V, 744
 Sal'kova, A. K., IX, 328
 Salmon, E. S., II, 252; IV, 387;
 VI, 515, 518, 520; VII, 644,
 695, 696, 699; IX, 473, 541,
 542, 929, (938), 1307
 Salter, R. M., X, 822
 Samant, K. M., III, 461
 Samarsky, A. I., VIII, 896
 Samisch, R. M., VII, 770
 Samoilov, V. I., X, (1105)
 Sampson, H. C., VI, 239; X, 229
 Samuel, C. K., VII, 1014
 Samuel, G., X, 1043
 Samuels, C. D., I, 177; IX, 1340
 Sanders, F. R., III, 237, 238
 Sanderson, A. R., I, 398; II, 82
 Sando, C. E., I, 242; III, 415;
 VII, 297
 Sando, L., VI, 328, 767, 768
 Sands, W. N., I, 300
 San Pedro, A. V., V, 111; VI,
 388, 404; VII, 494
 Sansome, F. W., IV, 162; VIII,
 360
 Santiago, W., VI, 172
 Sapozhnikova, E. V., VIII, 292
 de Saram, F., X, 1482
 Sarma, S. N., IX, (668); X, (765)
 Saso, H., X, 194
 Sass, J. E., IV, 167
 Sastri, B. N., X, (765)
 Sattar, A., X, 290
- Ruiz, S. R., X, 1448
 Ruprecht, R. W., V, 38
 Rusch, F., IX, 1415
 Rusk, H. W., X, 573, (1378)
 Russell, G. A., VIII, 836
 Russell, G. T., I, 194
 Russell, J., X, 1291
 Russell, P., IV, 419
 Russell, R., VII, 853
 Russell, T. A., VI, 402
 Ruth, W. A., I, 50, 148; II, 337
 Rutherford, M. B., VIII, 291
 Ruttle, H. L., VII, 29
 Ruyle, E. H., X, 1254
 Ruys, J. D., X, 478
 Ryall, A. L., VIII, 694; IX, 657
 Rybin, V. A., VIII, 22, 25
 Rygg, G. L., VI, 838, 839;
 VII, 433; IX, 578
 Rygh, O., II, 207
 Ryndin, N. A., VI, 833
 Ryndin, N. V., X, 633
 Rzhevkin, A. A., IX, 988; X, 211
 S., G. W., VI, 267
 S., R. L., IX, 623
 Saanichton, B. Columbia, VIII,
 1366
 Sabet, Y., X, 1149
 Sabouroff, N. V., V, 314
 Schaffo, T., I, 345
 Sakimura, K., VIII, 881
 Sala, R. T., X, 385
 Salaman, R. N., VII, 684
 Salgado, M. L. M., VI, 391;
 VIII, 257, 549; IX, 1529;
 X, 235, 712, 1500
 Saliba, F., IV, 549
 Salisbury, E. J., V, 744
 Sal'kova, A. K., IX, 328
 Salmon, E. S., II, 252; IV, 387;
 VI, 515, 518, 520; VII, 644,
 695, 696, 699; IX, 473, 541,
 542, 929, (938), 1307
 Salter, R. M., X, 822
 Samant, K. M., III, 461
 Samarsky, A. I., VIII, 896
 Samisch, R. M., VII, 770
 Samoilov, V. I., X, (1105)
 Sampson, H. C., VI, 239; X, 229
 Samuel, C. K., VII, 1014
 Samuel, G., X, 1043
 Samuels, C. D., I, 177; IX, 1340
 Sanders, F. R., III, 237, 238
 Sanderson, A. R., I, 398; II, 82
 Sando, C. E., I, 242; III, 415;
 VII, 297
 Sando, L., VI, 328, 767, 768
 Sands, W. N., I, 300
 San Pedro, A. V., V, 111; VI,
 388, 404; VII, 494
 Sansome, F. W., IV, 162; VIII,
 360
 Santiago, W., VI, 172
 Sapozhnikova, E. V., VIII, 292
 de Saram, F., X, 1482
 Sarma, S. N., IX, (668); X, (765)
 Saso, H., X, 194
 Sass, J. E., IV, 167
 Sastri, B. N., X, (765)
 Sattar, A., X, 290
- Saunders, A. R., X, 452
 Saunders, L. H., X, 1547
 Saunderson, W. R., VII, 899
 Savage, C. G., II, 41, 313;
 IV, 660; V, 317
 Savage, E. F., VII, 558; IX, 820
 Savastano, G., III, 222; IV, 539;
 IX, 756, 1073, 1365, 1367,
 1368, 1369, 1496, 1498, 1499
 Savidge, C., VIII, 964
 Savile, A. H., VIII, 1205
 Savzdar, E. E., VIII, 1065
 Sax, K., IV, 320
 Sayed, I. A., I, 299; VI, 195;
 VII, 559
 Sayer, W., VI, 894
 Sayre, C. B., III, 180; VI, 800;
 X, 1071
 Saywell, L. G., III, 70; VIII, 596
 Sazama, R. F., VIII, (1072);
 X, 573
 Scarone, F., IX, 998, 1025, 1036;
 X, 239
 Scarpitti, G., VII, 381
 Scarth, G. W., VI, 737; VII, 871;
 IX, 1207
 Scavone, G., X, 218
 Schachtshabek, P., VIII, 351
 Schaffner, J. H., VI, 187; VIII,
 413
 Schandler, H., II, 23; III, 160;
 IV, 44, 238, 339, 368; VI, 17;
 VII, 839, 840
 Schappelle, N. A., VI, 631
 Scharrer, K., VII, 3; VIII, 355
 Scheel, R., IX, 169
 Scheer, B. A., VIII, 619
 Scheffer, F., X, 829
 Schellenberg, A., I, 251
 Schellenberg, H., X, 747
 Schermerhorn, L. G., VIII, 1078;
 X, 1140
 Scherz, W., V, 35; VI, 52; IX, 80
 Scheu, H., VIII, 426
 Scheunert, A., VIII, 789
 Schilbersky, K., III, 327
 Schilliter, J. C., III, 315
 Schimmer, F. C., VII, 1062
 Schindler, O., I, 231; III, 10
 Schleifeld, S. A., VIII, 1232
 Schlenz, P., IX, 1210
 Schlösser, L. A., VI, 794; VIII,
 781
 Schmalfuss, K., VIII, 495
 Schmidt, F. A. F., X, 1319
 Schmidt, A. W., IV, 301
 Schmidt, C. M., X, 35
 Schmidt, H., IX, (173)
 Schmidt, L., VII, 810
 Schmidt, M., I, 5; V, 47, 597,
 598, 599; VI, 742; VII, 69,
 339, 344, 547; VIII, 24, 667;
 IX, 59, 97
 Schmidt, M. B., VIII, 948; IX,
 1108
 Schmidt, R., IX, 141
 Schmitt, N., III, 36
 Schmöle, J. F., VIII, 241; IX,
 266; X, 1476, 1479
 Schneider, C. L., VIII, 616, 618;
 IX, 1111; X, (821)
 Schneider, E., II, 272

AUTHOR INDEX

- Schneider, G. W., **X**, 893
 Schneider, J. B., **IX**, 144
 Schneiders, E., **V**, 381; **VI**, 479; **VII**, 277
 Schoene, W. J., **VIII**, (1072)
 Schoener, J. M. A., **III**, 520
 Scholles, W., **VI**, 754
 Scholz, J., **VIII**, 330
 Schomer, H. A., **X**, 358, 1120, 1222
 Schonberg, S., **VIII**, 464
 Schoonover, W. R., **III**, 91; **IV**, 107; **VII**, 973, 976; **IX**, 1344; **X**, 204, 968
 Schoorel, A. F., **IX**, 1015
 Schwengert, G. C., **III**, 33; **VI**, 670
 Schrader, A. L., **III**, 308; **VI**, 675, 684; **VII**, 862; **IX**, 446; **X**, 1343
 Schrader, T., **VI**, 723
 Schratz, E., **I**, 117
 von Schreven, D. A., **VII**, 371; **IX**, 897
 Schribaux, E., **VIII**, 379
 Schroeder, C. A., **VI**, 876
 Schroeder, R. A., **VI**, 760; **X**, 1031, 1061
 Schroeder, W., **IX**, 1082
 Schropp, W., **I**, 272; **VII**, 3; **VIII**, 355, 798; **IX**, 1310
 Schrubing, W., **I**, 318
 Schuck, T. G., **VI**, 380
 Schultz, F. E., **IX**, 1351; **X**, 1123, (1335), 1409, 1410
 Schultz, H., **IV**, 334; **IX**, 142, 915; **X**, 593
 Schulz, F., **V**, 201; **VII**, 555; **VIII**, 1335; **IX**, 1160
 Schuphan, W., **VII**, 921
 Schüssler, H., **VIII**, 269
 Schuster, C. E., **IV**, 57; **VII**, 597, 801, 888; **IX**, 86; **X**, 1349, 1354
 Schütz, F., **VIII**, 159
 Schw, H., **X**, 747
 Schwartz, J., **III**, 518
 Schwartzte, C. D., **V**, 371; **VII**, 892; **VIII**, 711; **IX**, 857
 Schwarz, L., **IV**, 26
 Schwechten, A., **VI**, 60
 Schweizer, J., **II**, 402; **VIII**, 869; **IX**, 251, 265, 715, 1401, 1418; **X**, 259, 1570
 Science Museum Library, London, **X**, 429
 Scott, D. H., **IX**, 817; **X**, (921), 965
 Scott, F. M., **X**, (460)
 Scott, G. W., **VI**, 110; **VII**, 895
 Scott, M. J., **X**, 764
 Scott-Moncrieff, R., **VIII**, 362
 Scoville, G. P., **IV**, 546; **VI**, 47; **X**, 51
 Scribner, B. F., **VIII**, 1025
 Scrimgeour, J., **IX**, 1531
 Scupin, L., **IX**, 1479
 Seale Hayne, Department of Plant Pathology, **VIII**, 1121; **IX**, 1322, 1540
 Sears, E. M., **VI**, 117
 Sears, O. H., **X**, 1079
 Seaton, H. L., **V**, 647; **VI**, 346; **VII**, 692
 Seaton, L., **IX**, 590
 Sécrétain, C., **IV**, 689; **VIII**, 1003
 Secrett, F. A., **II**, 270; **V**, 65, 411
 Seeley, W. H., **I**, 372
 Seelinger, R., **IX**, 1226
 Seifick, H. J., **VII**, 541
 Segal, L., **X**, 106
 Segnes, D., **X**, (1258)
 Seifriz, W., **III**, 140
 Sein, F., **V**, 492; **VI**, 179
 Selby, H., **VI**, 45
 Sell, O. E., **VII**, 394
 Selman, I. W., **VI**, 797; **VIII**, 952; **IX**, 524; **X**, 1027
 Seltzer, P., **IX**, 1208
 Sen, H. D., **I**, 314
 Sen, P. K., **VII**, 546, 607
 von Sengbusch, R., **III**, 68, 510; **V**, 249
 Serdobolsky, I. P., **X**, 465
 Serdyukov, P., **IX**, 108
 Sereisky, A. S., **X**, 812, 889
 Sereni, D., **III**, 265
 Sergeva, A., **IV**, 184
 Sethi, R. L., **I**, 285
 Setterstrom, C., **IX**, 1206
 Severin, H. H. P., **V**, 428; **IX**, 147
 Seychelles, **VIII**, (1378); **IX**, (726); **X**, (450)
 Shablosky, B. I., **X**, 417
 Shafer, J., Jr., **VIII**, 345
 Shafik, M., **VI**, 100, 148; **VII**, 93; **X**, 317
 Shamel, A. D., **II**, 110, 157, 216; **III**, 87, 444; **IV**, 104, 105, 257; **V**, 94, 675; **VI**, 543, 549; **VII**, 285, 440, 715; **IX**, 375; **X**, 1116
 Shands, W. A., **IX**, (547)
 Shanidze, V. M., **VIII**, 1132
 Sharp, C. C. T., **II**, 401; **III**, 563
 Sharp, L. T., **VII**, 972
 Sharp, W. S., **X**, 1037
 Sharples, A., **II**, 82; **III**, 251; **IV**, 123
 Shashkin, I. N., **IX**, 75
 Shaulis, N. J., **IX**, 1182
 Shaw, C. W., **VII**, 613
 Shaw, F. R., **X**, 512
 Shaw, H., **VII**, 670, 671, 672; **VIII**, 767; **IX**, 122, 494, 884, 885, 1259
 Shaw, J. K., **I**, 128, 224; **V**, 199, 562; **VI**, 263, 694; **IX**, 789
 Shaw, K. J., **IX**, 537
 Shaw, L., **IV**, 564; **VI**, 299; **X**, 113
 Shcherbina, M. L., **VII**, 539
 Shear, G. M., **VII**, 851
 Sheldon, H. B., **V**, 451
 Shelton, F. A., **X**, (1400)
 Shemsettin, E. M., **VIII**, 63
 Shepard, H. H., **X**, 741
 Shepard, C. Y., **V**, 279; **VII**, 1025; **X**, 693
 Shepherd, A. D., **X**, (1240)
 Shepherd, E. F. S., **VIII**, 843
 Shepherd, J. D., **VI**, 846
 Sherrard, G. O., **IX**, 507
 Shestal'tynov, M. S., **X**, (1105)
 Shevchenko, M. I., **IX**, 104
 Shewell-Cooper, W. E., **VIII**, 951
 Shibuya, T., **VII**, 217; **IX**, (1121)
 Shiff, M., **IV**, 481; **X**, 645
 Shill, A. C., **I**, 87; **II**, 53
 Shima, Y., **VII**, 646
 Shima, Z., **IV**, 561
 Shirlow, N. S., **II**, 11; **IX**, 1281
 Shive, J. W., **IV**, 351; **V**, 183; **VI**, 458; **X**, 1080
 Shlykov, G. N., **VIII**, 827
 Shmagrina, O. T., **X**, 623
 Shmanev, M. H., **VIII**, 1302
 Shmelev, J. K., **VIII**, 80
 Shoemaker, J. S., **I**, 165; **VI**, 56
 Showell, H., **II**, 92
 Shpon'ko, G. A., **X**, 1318
 Shreve, F., **X**, 2
 Shrikhande, J. G., **VI**, 431
 Shropshire, L. H., **V**, 651; **VII**, 689
 Shubert, N., **VIII**, 51
 Shuck, A. L., **IV**, 404; **V**, 246; **VI**, 111
 Shuhart, D. V., **II**, 154
 Shull, C. A., **X**, 1
 Shultis, A., **IV**, 14; **IX**, 186
 Shutak, V. G., **IX**, 1303
 Shutt, F. T., **II**, 26
 Sibert, E., **IX**, 249
 Sicard, H., **I**, 167
 Siddappa, G. S., **VI**, 799; **VIII**, 1323
 Sideris, C. P., **IV**, 477; **VIII**, 880; **IX**, 649, 1046; **1047**; **X**, 304, 305, (718)
 Sidorenko, M. I., **IX**, 521
 Sidortchuk, A. S., **VIII**, 76
 Siegemura, T., **IX**, 1361
 Siegler, E. A., **X**, 61, 978, 1312
 Siegler, E. H., **IX**, (1260); **X**, 997
 Siemaszko, W., **VIII**, 745
 Sierra Leone, **VI**, 1000; **VIII**, 1367; **IX**, (726)
 Sievers, A. F., **VIII**, 836
 Sikharulidze, M. G., **IX**, 1018
 Silenko, Z. V., **X**, (1400)
 Sills, V. E., **VIII**, 905; **X**, 1249
 Silva, A., **V**, 141
 de Silva, C. A., **VII**, 1001; **IX**, 276; **X**, 282, 285, 1199
 Silva, R. F. E., **X**, 601, 1499
 da Silveira, J. C., **III**, 260; **IV**, 642
 Silver, E. A., **IX**, 126
 Silvestri, F., **II**, 254; **IV**, 578
 Siminovitch, D., **IX**, 1207
 Simmen, C., **X**, 79
 Simmonds, H. W., **VI**, 934; **VII**, 1004
 Simmonds, J. H., **III**, 256, 581; **IV**, 286; **V**, 297; **VII**, 447; **VIII**, 577, 1245; **IX**, 118; **X**, 1210
 Simonet, M., **III**, 438; **IX**, 373
 Simonov, I. N., **X**, 64
 Simons, J., **X**, 1411, 1412
 Simpson, R. C., **VII**, 575
 Sinclair, K. J., **VII**, 527
 Sinclair, W. B., **V**, 260; **VIII**, 182; **IX**, 1353
 Sindén, J. W., **IX**, 160

AUTHOR INDEX

- Sindoni, A., VI, 144
 Singh, B. N., VII, 462, 484, 526,
 VIII, 211, 545, 546,
 569; IX, (397), 1064
 Singh, S., VIII, 1247
 Singh, S. N., VIII, 211, 545, 546
 Singh, U. B., X, 111
 Singleton, H. P., V, 559
 Sipple, H. L., VII, 1101; X, 750
 Sircar, S. S. G., X, 1164
 Sisa, M., VIII, (982)
 Sitton, B. G., II, 153; IX, 840;
 X, 947
 Sitz, M., IV, 512
 Siukhin, M., IX, 597
 Sivaswamy, T. G., VII, 517
 Sivaraksha, G. S., IX, 595
 Skibbe, A. M., V, 617; VII, 101
 Skillman, E., IX, 402
 Skinner, H. T., VIII, 934; X, 1107
 Skinner, J. J., IX, 842
 Skoog, F., VIII, 617; IX, (369),
 430; X, 804
 Skorobogatov, M. E., X, 1142
 Skrobinska, J., VIII, 653
 Skutch, A. F., I, 296, 404;
 II, 86
 Sladden, G. E., II, 176; III, 392;
 X, 692
 Slate, G. L., III, 325; V, 370;
 IX, 73
 Sledge, W. A., I, 66
 Slocock, O. C. A., VI, 536
 van Slochteren, E., III, 363;
 VII, 416; X, 1401, 1402, 1404
 van der Sluys, G. H. J., X, 295
 Small, J., X, 694
 Small, T., VI, 344; VIII, 784
 Smart, H. P., VII, 763; VIII, 579
 Smee, C., III, 236; IV, 116
 Smidrkal, B., IX, 12
 Smitson, M. J., IX, 1273
 Smirnova, O. N., IX, (893)
 Smirnov-Loginov, V. P., X, (1158)
 Smit, B., V, 271; VIII, 539;
 X, 611
 Smitananda, P., VIII, 278
 Smith, A., II, 4
 Smith, A. C., III, 113, 409;
 VIII, 837
 Smith, A. J., VII, 986
 Smith, A. J. M., VIII, 312
 Smith, A. M., IV, 247; IX, 515
 Smith, C. E., IX, (547)
 Smith, C. F., VIII, 449
 Smith, C. L., V, 211; VII, 496;
 IX, 841, 843; X, 85, 86, (87),
 1350
 Smith, C. O., VIII, 1042
 Smith, D. C., VIII, 154; IX, (938)
 Smith, E., VI, 291, 326
 Smith, E. G., VII, 434
 Smith, E. G. L., VIII, 471
 Smith, E. H. G., VIII, 252
 Smith, F., I, 118
 Smith, F. E., VI, 861
 Smith, F. E. V., I, 196; II, 206;
 III, 258
 Smith, F. F., IV, 67; VIII, 521;
 IX, 947
 Smith, G. E., VI, 690; VII, 584;
 VIII, 696
 Smith, G. G., V, 304
 Smith, H. F., VI, 640; X, 762
 Smith, H. P., X, 223
 Smith, H. S., IV, 62
 Smith, J. B., IX, 896
 Smith, J. E., VI, 814
 Smith, J. G., VIII, 809; IX, 655;
 X, (1136), 1231
 Smith, J. H., VIII, 737, 1246;
 IX, 479
 Smith, K. M., III, 181, 186, 612;
 V, 650; VI, 68; X, (1086)
 Smith, L. E., IX, (1260)
 Smith, L. J., V, 527
 Smith, L. L. W., I, 243
 Smith, L. M., VI, 490; VIII, 104,
 105
 Smith, O., I, 243; V, 649;
 VI, 790, 791; IX, 904
 Smith, P. F., X, 455
 Smith, R. E., IV, 66
 Smith, R. H., V, 625; VI, 87, 865
 Smith, T. E., IX, 537
 Smith, W. H., I, 197; III, 261;
 VI, 669; VII, 1054, 1057,
 1065, 1088; VIII, 1267, 1282,
 1304; IX, 1456; X, 320, 334,
 338, 339, 375, 734, 1321, 1520
 Smith, W. P. C., X, 655
 Smith, W. W., VI, 28; VIII, 730
 Smock, R. M., VI, 955'; VII, 614;
 VIII, 40, 736, 893; X, 1219
 Smyth, E. S., V, 20; VIII, 984
 Smyth-Homewood, G. R. B.,
 IV, 385; V, 606; VII, 95,
 665; IX, 502
 Snapp, O. I., IX, 482; X, (563),
 (1378)
 Snegirev, D. P., VIII, 614;
 IX, 1412
 Snell, J. F., VI, 228
 Snell, M. E., VIII, 496
 Snitko, E. Z., VIII, 1097
 Snoep, W. T., 387; X, 1452
 Snow, A. G., VI, 628
 Snow, R., VIII, 6; IX, 359;
 X, 813
 Snowden, J. D., I, 389
 Snyder, E., II, 149; VI, 286, 716;
 VII, 83; VIII, 60; X, 937,
 1344
 Snyder, J. C., IV, 206; VI, 283,
 705
 Snyder, W. C., IV, 363; VII, 408
 Soares, M. de B., X, 1134
 Société Nationale d'Horticulture
 de France, III, 431
 Söding, H., VIII, 328; IX, 1, 2
 Soelberg, C. X., 446
 Soesman, J. G., IX, 280, 1420;
 X, 1488
 Sofoteroval, N. K., VI, 845
 Sokolova, N. F., X, 217
 Sokolovsky, I., IX, 40
 Sokolskaya, B. P., VIII, 807,
 808
 Solianikoff, P., IV, 515, 671
 Soliven, F. A., V, 127; VIII, 527;
 IX, 1074
 Solomon, S., VII, 805
 Solovey, G. T., X, 475
 Soloviev, A. P., X, 623
- Somaliland, VIII, 1368
 Songmani, A., X, 707
 Sorber, D. G., II, 170; V, 358
 Sørensen, H. V., 427; VII, 691
 Sørenskaya, E. Y., VIII, 422
 Souček, J., IX, 51
 Soulié, H., VI, 755
 South Africa, Union of, VIII, 107,
 313, 407, 408, 1256; IX, 318,
 536, 559, 718, 1067, 1327,
 1542; X, 448, 577, 851
 South African Co-operative
 Deciduous Fruit Exchange
 Ltd., VIII, 1369; IX, 1541;
 X, 1269
 South Australia, VII, 337; VIII,
 409, (1378); IX, 662, 719;
 X, 787
 Southern Rhodesia, VIII, 550;
 IX, 720
 Southwick, F. W., X, 893
 Southwick, L., VI, 694; VIII,
 974; IX, 789, 1167; X, 891
 Southwick, R. W., X, 192, 636
 Soutz, J., VIII, 370
 Soyer, D., X, 1207
 de Soyza, D. J., VI, 580; VIII,
 578
 Spaeth, J. N., I, 255
 Spafford, W. J., X, 576
 Spaulding, P., IX, 1232
 Speir, G., VII, 538
 Spencer, E. L., VII, 404, 945
 Spencer, G. E. L., VI, 572, 882;
 X, 1458
 Spencer, H., IX, 583, 586;
 X, (648)
 Speyer, E. R., VI, 819, 821;
 VIII, 151, 505, 1084, 1090,
 1116; X, 1028
 Speyer, W., III, 344; VI, 92
 Spiegelburg, C. H., X, 1530
 Spinks, G. T., I, 127; III, 280;
 VI, 473, 477; VII, 542, 553;
 VIII, 671; IX, 767, 781, 847;
 X, 1315, 1327
 Spoon, W., VII, 998
 Sprecher von Bernegg, A., V, 122,
 747; VI, 980, 981
 Sprengel, L. II, 255
 Sprenger, A. M., I, 120; II, 326,
 415; IX, 230
 Sprout, B. B., VI, 715
 Spurway, C. H., IX, 401
 Squire, F. A., IV, 656; VIII, 264
 Srivinasan, K. H., VI, 907
 Srivastava, D. N., VII, 508, 606;
 VIII, 406, 685, 686
 Srivastava, M. B., VIII, 545
 S.S. Director of Gardens, IX,
 (1544)
 S.S. and F.M.S., III, 615; IV,
 124, 133; V, 281; VI, 579,
 915, 1001, 1002; VIII, 1370;
 IX, 245, 257, 289
 Staal, W., X, (751)
 Stádník, J., X, 139
 Staehelin, M., VI, 78; VIII, 1261;
 IX, 427, 500; X, 527
 Stägmeyr, E. I., 350; II, 234
 Stahel, G., IV, 668; VI, 923;
 VII, 226, 1046, 1047; X, 641

AUTHOR INDEX

- Stahl, A. L., III, 575; V, 156;
 VIII, 281, 282
 Stair, E. C., X, 1072
 Stals, A., IX, 150
 Stampa, G., VII, 269
 Staner, P., VI, 919
 Stanfield, J. F., X, 1
 Staniland, L. N., I, 158; II, 244,
 256; IV, 98; V, 62; VI, 358;
 VII, 795; IX, 1322
 Stanley, E. B., IX, 1001
 Stansel, R. H., VI, 289
 Stanworth, J., VIII, 1326; X,
 (1542)
 Stapel, C., V, 610; VII, 912;
 IX, 802; X, 1003
 Stapledon, R. G., VIII, 917
 Stapley, J. H., IV, 391; VI, 526;
 VII, 694
 Stapp, C., VI, 802; X, 107, 538
 Stark, A. L., VII, 317
 Statens Førsgovirksomhed i
 Plantekultur, X, 984, 1010
 Stearn, W. T., IX, 555
 Stearns, L. A., IV, 229
 Stecki, K., VIII, 723
 Steele, T. A., V, 382
 Steer, W., II, 139; III, 206, 207;
 IV, 226, 228, 393; V, 229,
 237; VI, 497, 499; VII, 659,
 671; VIII, 108, 757, 767;
 IX, 122, 494, 883; X, 1366
 Steer, W. L., VII, 367
 Steger, A., VIII, 797
 Stehlé, H., IX, 1007
 Steinbauer, C. E., X, (1086)
 Steinberg, R. A., VI, 632
 Steinegger, P., IV, 20, 45;
 V, 180; VIII, 751; IX, 58;
 X, 58
 Steiner, H. M., VIII, (1072);
 X, 121, (1378)
 Steiner, L. F., VII, 362; VIII,
 (1072); X, 573, (1378)
 Steingruber, P., III, 52
 Steinitz, H., VII, 985
 Steinle, J. V., VIII, 254
 Steinmann, A., II, 380
 Steinmetz, F. H., VIII, 435
 Stekhun, F. I., IX, 35
 Stellwaag, F., VIII, 454
 Stelzner, G., V, 66
 Stene, A. E., VI, 708, 724;
 VIII, 731; X, (950)
 Stepansev, I. N., IX, 114
 Stepata, W., VI, 959
 Stephens, C. G., V, 551
 Stephens, S. E., V, 718; VI, 178,
 180, 181, 385, 386, 586;
 VII, 463, 464, 466, 467, 510;
 VIII, 1231, 1233, 1234, 1235
 Stephenson, R. E., VI, 279;
 VII, 801; X, 1349, 1354
 Steuart, D. W., VI, 226
 Stevens, C. D., VII, 44
 Stevens, H., VIII, 499
 Stevens, H. E., IX, 1375
 Stevens, N. E., IV, 68; IX, 456
 Stevenson, G. B., IX, 520
 Stevenson, J. B., VIII, 503
 Steward, F. C., VI, 622; X, (847),
 (1400)
- Stewart, C. E., IX, 565
 Stewart, R. M., V, 509
 Stewart, W. D., IV, 592
 Stewart, W. S., VIII, 620;
 IX, 1115; X, 800, 818, 1282
 Steyaert, R. L., IX, 1038
 Stier, H. L., IX, 1293
 Stievano, M., VIII, 427
 Stirrup, H. H., IX, 898; X, (1086)
 Stitt, R. S., V, 714; VIII, 567
 St. Kitts Nevis, IX, (1544)
 Stobbe, P. C., VII, 298
 Stockdale, F. A., VI, 240;
 IX, 1090; X, 227, (1510)
 Stockholm, Växtskyddsanstalt,
 IX, 511, 513, 871
 Stofberg, F. J., VIII, 538, 812,
 1160; IX, 216, 1354
 Stoffels, E., IV, 281; VII, 747,
 1021
 Stoffels, E. H. J., IX, 1028;
 X, 1455
 Stokes, W. B., II, 52
 Stoldt, E., VI, 513; VII, 388
 Stoll, K., VIII, 746
 Stone, W. E., V, 717
 Storck, A., VI, 535; VII, 407
 Storey, H. H., III, 235; IV, 61;
 VII, 183; VIII, 1254; IX,
 651, 1219
 Storey, I. F., IX, 908
 Storey, W. B., VIII, 821; X, 293
 Stoughton, R. H., VII, 270;
 IX, 362, 393; X, 848
 Stout, A. B., III, 117, 574;
 VII, 864; X, 932, 1293
 Stout, G. J., VI, 805; VII, 808
 Stout, P. R., IX, (1133), 1138;
 X, 33, 34, (1400)
 Stout, W. G., II, 66
 Stoutemyer, V. T., V, 345;
 VI, 262; VIII, 382; IX, (1121)
 Stoy, O., X, 888
 Strachan, C. C., II, 9, 320;
 IV, 161; X, 754
 Straight, E. M., VIII, 1366
 Stratton, F. C., I, 297
 Street, E. A., III, 85; VII, 977
 Street, M. D., IX, 188
 Streets, R. B., IX, 833, 1001
 Strickland, A. G., III, 51, 486;
 V, 409, 523; VII, 364, 446;
 VIII, 183
 Strom, R., IV, 187
 Strong, W. J., VI, 457
 Struckmeyer, B. E., VIII, 344,
 954; IX, 1141; X, 30, 454,
 1108
 Stuart, N. W., III, 162; VIII, 933,
 976; IX, (1121); X, (460), 964
 Stublings, W. A. K., VII, 657
 Stuckey, I. H., IX, 462
 van Stuivenberg, J. H. M., IX, 57
 Sturdy, D., V, 693
 Sturgess, V. C., IX, 398
 St. Vincent, B.W.I., IX, 721;
 X, 788
 Subbiah, M., VII, 1043
 Subrahmanyam, V., VI, 428, 563,
 642; X, (921)
 Subramanian, T. V., III, 585
 Suckling, J. J. C., X, 269
- Sudan, VIII, (1378); IX, (726)
 Sudds, R. H., VI, 703; VIII, 699,
 975, 977; IX, 814; X, 867
 Sudell, R., II, 417
 Suga, Y., VIII, 287
 Sugawara, T., IX, 1124; X, 1426
 Suire, J., VIII, 1066; X, 995
 Suisse, l'Office Fédéral de Guerre
 pour l'Alimentation, X, 1531
 Suit, R. F., IV, 520; IX, 525
 Sukhatchev, A. D., VIII, 110
 Sukortseva, K. D., IX, (1515)
 Sulit, J. I., IX, 1506
 Sullivan, J. T., VII, 570
 Sullivan, W. N., VII, 356
 Summerby, R., V, 2
 Summerland, B. Columbia, VIII,
 314
 Summers, F., I, 400
 Summerville, W. A. T., V, 455;
 VI, 146, 147; X, 300
 Surridge, H. R., II, 194
 Susa, T., IV, 523; VIII, 688;
 IX, 798
 Sutherland, J. B., IV, 128
 Sutherland, R., II, 88; VII, 230,
 486
 Sveshnikova, N. M., X, 649, 1195
 Swabey, C., VII, 14; IX, 1005
 Swan, C. J., X, 1300
 Swaney, M. W., VIII, 1334
 Swarbrick, T., I, 33, 53, 61, 126,
 161; II, 130, 258; III, 313,
 346; IV, 355, 473, 486;
 V, 374; VI, 445, 473, 486;
 VII, 39, 43, 590, 634, 664;
 VIII, 403, 702, 704; X, 908,
 925, 977
 Swartley, J., X, 798
 Swartwout, H. G., X, 1339
 Sweet, A. T., VI, 275
 Sweet, R. D., IX, 912
 Swingle, C. F., X, 1297
 Swingle, W. T., II, 158
 Swynnerton, R. J. M., VII, 757
 Sylva, K. J., IX, 1003
 Sylvester, E. P., III, 328
 Szent-Györgyi, A., VII, 242
- Tabije, D. P., V, 146
 Tachdjian, E., see Taschdjian E.
 Tadeosyan, P. Y., IX, 247;
 X, 635
 Taggiaco, G., IX, 1257
 Tagi-Zade, A., IX, 592
 Tajima, Y., X, 811
 Takada, K., X, 199
 Takagi, I., X, 1311
 Takahashi, M., X, 250
 Takahashi, R., IX, 1385
 Takahashi, T., IX, 1361
 Takizawa, M., VII, 75
 Talbert, T. J., II, 134; VI, 317;
 VII, 535, 540; VIII, 647; IX,
 44; X, 907, 1328, (1335), 1546
 Talbot, P., IV, 412
 Tal'kovsky, A. I., VIII, 1082
 Tallarico, G., X, 214
 Talybly, G. A., VIII, 1200
 Tam, R. K., V, 298; VI, 594
 Tambe, G. C., VI, 374

AUTHOR INDEX

- Tammes, P. M. L., **VIII**, 1239, 1240, 1241; **IX**, 290
 Tanaka, S., **IV**, 64
 Tanaka, T., **I**, 266; **II**, 47; **III**, 532; **VI**, 823, 824, 921; **VIII**, 1124, 1125, 1126; **IX**, 193, (754), 961, 1428
 Tanaka, Y., **I**, 265; **III**, 446, 448, 449, 532; **IV**, 174; **VI**, 825; **VII**, 942; **VIII**, 966, 981, 1008, 1249
 Tanashev, G. A., **X**, 476
 Tandon, R. K., **VII**, 1015
 Tang, P. S., **X**, 1283
 Tanganyika Territory, **VI**, 1003, 1004; **VIII**, 558, 856, 857, 1371, 1372, 1373, (1378); **IX**, 621, (726); **X**, 261, (450)
 Taran, E. N., **IX**, 1412
 Taranets, M. P., **X**, 666
 Taranovskaya, V. G., **IX**, 589
 Tarasenko, G. G., **VIII**, 963
 Tarbert, D. J., **IV**, 435
 Taschdjian, E., **III**, 410; **IV**, 637
 Tasmania, Horticultural Division, **VII**, 342
 Tassinari, G., **II**, 363
 Tatarkaya, R. I., **VIII**, 605
 Tate, H. D., **VIII**, 168
 Tate, H. F., **IX**, 833
 Tatman, E. C., **C**, 387; **VIII**, 1102
 Tattersfield, F., **I**, 157; **II**, 29, 140; **V**, 55, 56; **VI**, 81, 884; **VII**, 675; **IX**, 1255, 1256; **X**, 1160
 Taubenhau, J. J., **IV**, 246; **X**, 162
 Taubitz, A., **IX**, 894
 Tavberidze, I., **VIII**, 1128
 Tavernetti, A. A., **IV**, 412; **IX**, 144
 Tavernetti, J. R., **V**, 81
 Tavernier, J., **X**, 914
 Taylor, A. L., **IX**, 577
 Taylor, C. A., **VI**, 844; **VII**, 969; **IX**, 972, 973; **X**, 1119
 Taylor, E. T., **X**, 1074
 Taylor, F., **X**, 59
 Taylor, G. C., **VI**, 85
 Taylor, G. G., **VII**, 909; **IX**, 201
 Taylor, H. V., **I**, 212; **VI**, 512, 612; **VII**, 788, 791, 792; **VIII**, 497; **IX**, 346; **X**, 424, 425, 426
 Taylor, J. J., **IX**, 565
 Taylor, J. K., **V**, 551; **IX**, 77
 Taylor, N. H., **IX**, 982
 Taylor, R. W., **III**, 317
 Taylor, T. H. C., **VII**, 473
 Teakle, L. J. H., **VII**, 12; **IX**, 741, (754), 1129
 Tea Research Institute of Ceylon, **VIII**, 315, (1378); **X**, 1441, 1566, 1567
 Teik, G. L., **II**, 377; **V**, 319; **VII**, 482; **VIII**, 215; **X**, 240, 241, 242, 676, 1503
 Telenga, N. A., **X**, (563)
 Tembe, G. C., **III**, 591
 Temppany, H. A., **V**, 310; **VI**, 417; **IX**, 680
 Temple, C. E., **X**, 1365
 Templeman, W. G., **IX**, 15, 394; **X**, 4
 Tengwall, T. A., **I**, 96, 291, 292; **III**, 405
 Teodoro, N. G., **X**, 678
 Terasaka, Y., **IX**, 1385
 Tergast, G. C. W. C., **VIII**, 1330
 Terra, G. J. A., **V**, 115, 436; **VI**, 369, 886; **VII**, 755
 Terry, G. W., **VII**, 398
 Teterev, F., **VIII**, 364
 Tetley, U., **I**, 69; **II**, 19; **III**, 500
 Texas, **II**, 310; **X**, (1589)
 Thamotheram, T. V., **IX**, 1382
 Tharp, W. H., **X**, 1303
 Theron, C. J., **I**, 13, 14; **IX**, 672
 Theron, J. J., **VI**, 432; **VIII**, 529
 Théron, L. X., 1245
 Thiem, H., **VII**, 905; **VIII**, 758; **IX**, 1248
 Thies, W. H., **VII**, 620; **X**, 903
 Thimann, K. V., **VII**, 819; **VIII**, 618, 1338; **IX**, 355, (369), 1099, 1111; **X**, 3, (821)
 Thistie, M. W., **X**, 14, 803
 Thomas, A. S., **V**, 691; **VII**, 219; **X**, 688
 Thomas, C. A., **VII**, 940
 Thomas, C. C., **VI**, 702
 Thomas, E. N. M., **IV**, 132
 Thomas, F. J. D., **V**, 63, 229, 231, 235
 Thomas, H. E., **III**, 487, 490; **IV**, 562; **V**, 393; **VII**, 331, 345; **VIII**, 90; **IX**, 467, 1225; **X**, 531, 535, 536, 621
 Thomas, H. R., **VII**, 408; **VIII**, 1091
 Thomas, I., **III**, 508; **X**, 992
 Thomas, J. E., **I**, 207; **III**, 130; **IV**, 204, 207; **VII**, 593, 596, 632, 651; **VIII**, 66; **IX**, 84, 85
 Thomas, L. A., **IV**, 349; **VI**, 660, 731; **IX**, 47, 48
 Thomas, M., **I**, 305, 306; **VII**, 255; **VIII**, 317
 Thomas, P. H., **I**, 150, 152; **II**, 341; **III**, 240, 281; **V**, 42; **VI**, 225, 408; **VIII**, 49; **IX**, 1216; **X**, 1307
 Thomas, P. T., **IX**, 1151; **X**, 922, 923
 Thomas, W., **II**, 233; **IV**, 37, 348; **VII**, 8, 300; **VIII**, 13, 950; **IX**, 1131; **X**, 135, 136, 839, 1390
 Thomas, W. A., **VIII**, (467)
 Thomas, W. S., **X**, 1091
 Thompson, A., **IV**, 658; **VI**, 590; **VIII**, 265, 875; **IX**, 294
 Thompson, A. J., **IX**, 531
 Thompson, C. R., **II**, 262; **III**, 313; **IV**, 359; **V**, 374; **VI**, 488; **X**, 885
 Thompson, D. J., **IV**, 108; **VII**, 318, 443
 Thompson, E. C., **IX**, 784
 Thompson, F. C., **IX**, 1319; **X**, 181, 182, 183
 Thompson, H. C., **IV**, 409; **VIII**, 472; **IX**, 904; **X**, 766
 Thompson, H. W., **VII**, 125
 Thompson, J. M., **IX**, 187
 Thompson, R. C., **VI**, 785; **VIII**, 129, 478, 1074, 1075; **IX**, 145, 518; **X**, 154
 Thompson, S. G., **X**, (1542)
 Thompson, S. G., **X**, 895
 Thompson, W. A., **V**, 162
 Thompson, W. L., **VIII**, 190; **IX**, 584; **X**, 646
 Thompson, W. R., **X**, 120
 Thompson, W. S., **VI**, 229
 Thomson, R. H. K., **VI**, 466; **VII**, 324; **VIII**, 398, 455; **IX**, 92; **X**, 1353
 Thor, C. J. B., **V**, 211; **X**, 86, (87)
 Thornberry, H. H., **VII**, 640
 Thornton, N. C., **I**, 304; **III**, 594, 595; **VII**, 376; **VIII**, 891, 892; **IX**, 370, 1270, 1271, 1323
 Thorold, C. A., **V**, 695
 Thung, T. H., **X**, 1088
 Tibreau, M. E., **VII**, 399
 Tidbury, G. E., **VIII**, 1253
 Tiedjens, V. A., **IV**, 195; **VIII**, 1078; **IX**, 1264; **X**, 1140
 Tihon, L., **VI**, 171; **X**, 272
 Tikhonov, N. N., **VIII**, 29, 967
 Tikhonova, A. S., **IX**, 410
 Tilford, P. E., **IX**, 360
 Tilgner, D. G., **VII**, 380
 Tiller, L. W., **I**, 102; **II**, 414; **III**, 126, 413; **IV**, 480, 529; **VI**, 207, 453; **IX**, 679; **X**, 732
 Tillson, A. H., **IX**, (587)
 The Times, I, 409
 Timoshenko, S. V., **X**, 580
 Timson, S. D., **VIII**, 548; **X**, 665
 Tincker, M. A. H., **II**, 3, 316, 317; **III**, 1; **IV**, 79, 399; **V**, 252; **VI**, 5, 528; **VII**, 256, 258; **VIII**, 341; **IX**, 503; **X**, 9, 795
 Tindale, G. B., **II**, 201; **V**, 731; **VI**, 211, 212; **VIII**, 1298; **IX**, 306; **X**, 340
 Tingley, M. A., **VII**, 626; **VIII**, 728
 Tinline, M. J., **IX**, 24
 Tinsley, J., **X**, (1335)
 Tisdale, W. B., **IX**, 1306
 Tisdale, W. H., **V**, 270
 Tishkov, S. I., **X**, 597
 Tissot, P., **V**, 276; **VI**, 166, 410; **VII**, 248; **VIII**, 818; **X**, 630
 Tkachenko, N. N., **VIII**, 131
 Tobback, L., **VII**, 1002
 Todhunter, E. N., **VI**, 272; **VIII**, 900; **X**, 314
 Toenjes, W., **VIII**, 700; **IX**, 1162
 Tofte, C. R., **VIII**, 1187
 du Toit, E., **VII**, 993
 du Toit, M. S., **X**, 116
 Tokhadze, I. G., **VIII**, 178
 Tokingawa, Y., **VII**, 33
 Tolokowsky, S., **X**, 394
 Tolman, T. G., **X**, 1254
 Tomkins, R. G., **I**, 199, 410; **V**, 147; **VI**, 598, 956, 958; **VII**, 1061, 1076, 1080; **VIII**, 1259, 1274, 1295; **IX**, 1054; **X**, 325, 354, 360, 364

AUTHOR INDEX

- Tomlinson, F. R., IX, 299; X, 39
 Tongane, C. M., VIII, 97, 1094;
 IX, 109
 Toola, E. H., X, 1055
 Tonk, V. K., X, 1055
 Tonwe, J. P., VIII, 151
 Tonwe, H. G., X, 105
 Tonwe, O., VIII, 12
 Tonwe, J. P., III, 366; VII, 153;
 163, 170, 180; VIII, 155;
 IX, 364, 381, 384
 Tonwe-Cross, E. V., 357
 Tonwe-Cross, G. R., IV, 388
 Tonwe-Cross, H. A., I, 75; 173;
 II, 275; IV, 102; VI, 135;
 181, 192; IX, 232, 983;
 X, 245
 Tracta-Mosca, F., IV, 674
 Trapaudre, K. G., X, 1177
 Trapaudre, C. G., VIII, 831
 Traas, E. E., IV, 265
 Tramb, H. P., III, 266; IV, 58;
 260, 312, 447; VI, 188, 364;
 VII, 990; VIII, 169, 932;
 IX, 388; X, 1222
 Traas, A. D., III, 551; IV, 450;
 VI, 576
 Trael, M., IX, 1056
 Travie, R. H., 221
 Treanor, D. K., VII, 245, 501;
 125, 198; IX, 678, 1085;
 X, 152
 Treanor, D., IX, 105
 Trete, M. H., VII, 417
 Trevalan, Imperial College of
 Tropical Agriculture, III, 250;
 IV, 304; VII, 1055; VIII,
 1178; IX, 726, 1544;
 X, 1562
 Trevalan, Sugar Cane Experi-
 ments, VIII, 1173; IX, 726;
 X, 450
 Trevalan and Tidmarsh, III, 164;
 X, 164; VI, 1005; VII, 1171;
 VIII, 1173; X, 1562
 Trevalan, J. L., 356
 Trevarthen, G. R., X, 1258
 Trevarthen, J., IX, 1052
 Trevarthen, J. Y., III, 51
 Trevarthen, J. W., VIII, 302
 Trevarthen, P. H. M., X, 127
 Trevarthen, A. T., X, 42
 Trevisan, J., IX, 596
 Trevernor, A., I, 366
 Trewhiddle, F., IV, 540
 Trewhiddle, S. A., I, 105; II, 202;
 V, 304; VI, 204; VIII, 1288;
 IX, 506
 Trewhiddle, S., X, 1058
 Tre, Z., VI, 129
 Trebil, H., VIII, 173; IX, 702, 139
 Trebilcot, G. A., 128, 387, 401
 Trebilcot, R. E., VI, 204
 Trebilcot, J. J., III, 21
 Trebilcot, C., III, 173
 Trebilcot, J. E., VIII, 588
 Trebilcot, J. H. L., IV, 341
 Trebilcot, G. M., IX, 907;
 X, 105
 Trebilcot, M. V., X, 105
 Trebilcot, M. P., X, 105
 Trebilcot-Trewhiddle, P. E., VIII, 962
 Trebilcot-Trewhiddle, S. F., IX, 1079
 Trebilcot, P. R., I, 203; II, 67, 69;
 282; III, 200, 214, 246, 246;
 517, 529; IV, 269; VI, 300;
 VII, 348, 349; IX, 1042
 Trecker, C. M., VIII, 97; IX,
 105; X, 1236
 Trecker, D. A., VI, 227
 Trecker, L. R., IV, 56; VI, 576
 Treiba, W. P., I, 70; IV, 136;
 V, 240; VI, 229; VIII, 387;
 X, 166
 Treiber, H. B., I, 39, 226; II, 16;
 213; III, 147, 286; IV, 24;
 30, 249, 319, 327; V, 268;
 284; VI, 241, 422, 571;
 VII, 21, 242, 339; VIII, 388;
 399, 399, 403; IX, 46, 747;
 808, 817; X, 467, 1359
 Treibig, K. P., X, 167
 Treitler, A. C. L., 66, 99; X, 175
 Turnbull, A. V., 50, 52; VII, 346;
 VIII, 439; IX, 345, 1089;
 X, 896
 Turnbull, R. F., III, 605; IV, 485
 Turner, A. D., VI, 51
 Turner, C. W. O., III, 578
 Turner, D. M., X, 150
 Turner, F. A. S., VI, 542
 Turner, H., V, 734
 Turner, H. A., VIII, 78
 Turner, J. H., III, 241
 Turner, N. J., IX, 516
 Turner, P. E., VIII, 11579;
 IX, 129; X, 450
 Turner, R., X, 709
 Turner, W. L., X, 97
 Turner, P. M., VI, 630; X, 198;
 1407
 Turneyenne, J. W., VIII, 302
 Tuner, P., II, 245
 Tun, Y., VII, 186
 Tuneman, H. M., III, 247;
 IV, 169, 171; V, 173, 233;
 VI, 260, 448; VII, 545, 552;
 556, 830, 902; VIII, 674, 684,
 996; IX, 790, 791; X, 869,
 870
 Uber, F. M., IX, 379; X, (921)
 Uganda, IV, 148; VI, 422, 1006;
 VII, 1118, 1119; VIII, 1374;
 IX, 1726; X, 450, 1585
 Ukrainian Academy of Sciences,
 Institute of Botany, X, 1551
 Ukrainian Institute of Fruit
 Production, X, 47
 Ukrainskii, V. T., X, 1097
 Ultman, G. C., IX, 446, 1251
 Unwin, M. F., X, 549
 Undeby, E., VI, 486, 492;
 VII, 21; IX, 570
 Underhill, G. W., IX, 485
 Unsworth, L. A., VIII, 509
 Unwin, C. H., X, 9
 Unwin, J. C. T., I, 172, 371;
 III, 36, 229; IV, 206, 251;
 V, 23, 255, 271; VI, 155;
 VII, 204, 223; VIII, 531;
 IX, 495
 Uppal, B. N., VI, 860; VII, 1008

AUTHOR INDEX

- Verhoef, L., **IX**, 330
 Vernay, P., **IV**, 210
 Verner, L., **III**, 309; **IV**, 342;
VI, 26; **VIII**, 689; **IX**, 853,
 854, 1168; **X**, 953
 Verona, O., **II**, 298
 de Verteuil, J., **IV**, 460; **V**, 134,
 473; **VI**, 911
 Vesselovskaya, M., **IV**, 7
 Viala, P., **IV**, 382
 Vickery, J. R., **II**, 89
 Vidal, D., **VIII**, 1173
 Vidal, J. L., **I**, 168; **VII**, 61;
VIII, 1040; **X**, 1346
 Viennot-Bourgin, G., **VI**, 95;
X, 1060
 Viktorov, V. F., **IX**, 113
 Viktorovsky, G. P., **VI**, 617
 Vilhena, M., **VI**, 30
 de Villiers, D. J. R., **VIII**, 1281;
IX, 1455, 1457, 1466, 1467,
 1468, 1469, 1473; **X**, 335,
 341, 343, 352, 353
 de Villiers, F. J., **I**, 85, 86, 316
 de Villiers, J., **IX**, 422
 Vincent, C. C., **II**, 333
 Vincent, C. L., **VII**, 129
 Vineland, Ontario, **IX**, 722;
X, 1586
 Vinet, E., **IV**, 211; **VI**, 54, 55;
VII, 52, 55; **VIII**, 433, 1051
 Vinik, M., **IV**, 431
 Vinograd, D. I., **X**, 875
 Vinogradov, A. P., **IX**, (754)
 Vinson, C. G., **VIII**, 466; **JX**,
 423, 461, 498; **X**, 1375
 Vinson, R., **VI**, 46
 "Virginia Fruit," **VIII**, 768
 Vittoria, A., **X**, 1419
 Viunikov, F. I., **VIII**, 198
 Vivarelli, L., **IV**, 157
 Vivenza, A., **VIII**, 155
 Vivoli, G., **IV**, 648; **X**, 212
 van Vlack, C. H., **X**, (1304)
 Vlasenko, I. A., **VIII**, 804
 Voelcker, O. J., **IV**, 467; **V**, 707;
VI, 909, 910; **VII**, 1027;
VIII, 1214, 1215, 1216, 1217,
 1218; **IX**, 1409; **X**, 1189,
 1462
 Vogel, F., **I**, 221, 332; **II**, 269;
III, 46, 63; **IV**, 239; **VIII**,
 119; **IX**, 143, 180, 951, 1262,
 1267
 Vogel, J., **X**, 280
 Vogele, A. C., **VIII**, 139, 894
 Vogt, S., **X**, 1244
 Volk, A., **IX**, 82
 Volkhovskaya, U. V., **IX**, 1426
 Vollema, J. S., **I**, 395; **IV**, 121;
VIII, 1227; **X**, 279
 Volten, P., **X**, 1159
 Voorenky, J. J., **V**, 386
 de Vore, L., **IX**, 23
 Vorontsov, V. E., **VIII**, 1201
 Voss, J., **VI**, 801; **VIII**, 469
 Voûte, A. D., **V**, 454, 485
 de Vries, E., **II**, 84
 Vroon, L. J., **VIII**, 1185
 Vuillet, J., **IX**, 1048
 Vyatkin, V., **VI**, 701
 Vyshinsky, V. A., **VIII**, 299
 Vyvyan, M. C., **I**, 63, 132; **III**, 17;
IV, 176, 329; **V**, 524, 550;
VI, 447; **VIII**, 973; **IX**, 783
 de Waal, H., **VII**, 2
 Wad, Y. D., **I**, 422; **III**, 591;
VI, 374
 Wade, B. L., **VIII**, 145; **IX**, 159;
X, 1082
 Wade, C. W., **VIII**, (467)
 Wadeleigh, C. H., **X**, 1303
 Wadeley, F. M., **IX**, 112
 Wageningen, **VI**, 1007
 Wager, V. A., **V**, 99, 450;
VII, 1042; **VIII**, 492; **X**, 644
 Wagner, F., **I**, 248, 260
 Wagner, G., **VIII**, 703
 Wahlberg, H. E., **II**, 155; **IV**, 611;
VI, 141; **VII**, 726; **VIII**, 1146
 Wain, R. L., **X**, 1397
 Waite Institute, **X**, (1589)
 Waitz, J., **II**, 406
 Wakefield, A. J., **III**, 237, 238,
 552; **VI**, 908
 Waldo, G. F., **I**, 11, 12; **II**, 263;
III, 49, 316, 477; **V**, 32, 203;
VI, 704; **X**, 929
 Walford, E. J. M., **IX**, 314
 Walker, A., **I**, 195; **VI**, 197;
X, 396
 Walker, G., **X**, 1257
 Walker, G. L., **VIII**, 456; **IX**, 516
 Walker, H. B., **VII**, 973, 975, 976;
VIII, 1147; **IX**, 1344; **X**, 204
 Walker, H. G., **VIII**, (467)
 Walker, J. C., **IV**, 403; **V**, 644
 Walker, M. M., **II**, 251
 Walker, M. N., **V**, 646
 Walker, R. I., **VIII**, 628
 Walker, S. J., **I**, 78; **IX**, 1340
 Walker, W. F., **VIII**, 615; **IX**,
 414; **X**, 69
 Wall, M. E., **IX**, 1264, 1290;
X, 1069, 1070, 1285
 Wallace, C. R., **IX**, 647
 Wallace, G. B., **VI**, 379
 Wallace, J. C., **V**, 78; **VI**, 339;
VII, 113; **IX**, 556
 Wallace, R. H., **VIII**, 643
 Wallace, T., **I**, 43, 153, 247;
II, 351; **III**, 27, 270, 300;
IV, 190; **V**, 172, 195, 337;
VII, 679, 796; **VIII**, 414, 917,
 997, 999; **IX**, 829, 846; **X**,
 956, 957, 961, 1327, 1352
 Wallis, H. W. H., **IX**, 25
 Walsh, F. W., **IX**, 656
 Walsh, W. F., **VII**, 511
 Walter, E. V., **IX**, 590
 Walter, U., **VIII**, 1331
 Walters, D. V., **VII**, 595; **X**, 1358
 Walters, E. A., **II**, 61; **V**, 727
 Waltman, C. S., **VII**, 571
 Walton, B. S., **VIII**, 187
 Walton, C. L., **I**, 158; **II**, 244,
 256, 257; **III**, 207, 208, 364;
IV, 413, 423; **V**, 250; **VI**, 349,
 522, 525; **VII**, 682, 685;
VIII, 786; **X**, 1053, 1059
 Walton, G., **III**, 226
 Wampler, E. L., **VII**, 98

- Wander, I. W., **IX**, 435; **X**, 503,
 (921)
 Wanner, E., **V**, 36
 Wanscher, J. H., **IX**, 773
 Warcollier, G., **VIII**, 598, 599;
IX, 759; **X**, 914
 Ward, F. S., **VIII**, 1250
 Ward, J. F., **III**, 436
 Ward, K. M., **IX**, 1214
 Ward, N., **X**, 1041
 Ward, R. W., **II**, 413
 Wardlaw, C. W., **I**, 411; **III**, 411,
 412, 579, 601, 604; **IV**, 129,
 131, 138, 666, 667, 675;
V, 308; **VI**, 219, 220, 407;
VII, 170, 235, 1045, 1048,
 1081, 1084; **VIII**, 263, 316,
 895, 897, 1166, 1257, 1299;
IX, 296, 658, 1062, 1472,
 1476; **X**, 365, 367, 369, 714,
 738, 1236, 1237
 Wardlaw, H. H., **VI**, 929
 Ware, G. W., **VII**, 591
 Ware, W. M., **VI**, 252; **IV**, 414;
V, 653; **VI**, 518, 520; **VII**,
 644, 699; **IX**, 473, 542, 934,
 (938)
 Waring, J. H., **I**, 250; **VII**, 627
 Warington, K., **VIII**, 480; **X**,
 1047
 Warne, L. G. G., **V**, 172; **VII**,
 301; **IX**, 54
 Warner, G. C., **VIII**, 942
 Warren, G. C., **X**, 1306
 Wartenberg, H., **I**, 52
 Wasewitz, H., **VIII**, 477
 Washington, **VI**, 1008; **VIII**,
 (1378); **IX**, 723
 Washington, D.C. Patent Office,
VII, 799
 Washington State Horticultural
 Association, **I**, 320; **VIII**,
 1376; **IX**, 724
 Wasser, R. E., **IX**, 218; **X**, 647
 Wasserman, I., **VIII**, 1180
 Wassermann, J., **IV**, 628
 Watanabe, R. I., **VI**, 234
 Watanabe, S., **III**, 583, 584
 Water Board, Kenya, **IX**, 670
 Waterschoot, H. F., **IX**, 957
 Waterson, J. M., **VIII**, 98
 Wates, B. L., **IX**, 819
 Watkins, J. E., **X**, 1042
 Watkins, J. V., **VIII**, 634; **IX**,
 732; **X**, 1161
 Watson, D. J., **VI**, 629, 641
 Watson, E. B., **IX**, 174
 Watson, M. A., **X**, (1086)
 Watson, R., **X**, (172)
 Watson, S. J., **IX**, 394
 Watts, C. T., **VIII**, 1257
 Watts, V. M., **VII**, 680; **IX**, 1291;
X, 1380
 Waugh, F. A., **VI**, 810
 Waugh, J. G., **IX**, 817; **X**, 66,
 899, (921)
 van Waveren, J., **VIII**, 1120
 Waynich, D. D., **I**, 78
 Weatherby, L. S., **II**, 170
 Weaver, B. L., **VIII**, 779
 Weaver, D. S., **IX**, (754)
 Weaver, J. G., **VIII**, 632

AUTHOR INDEX

- Webb, J. E., **X**, (1378)
 Webber, H. J., **I**, 174; **II**, 159,
 160, 368; **III**, 368; **IV**, 430;
V, 257; **VII**, 442, 727;
VIII, 175; **IX**, 968
 Webber, I. E., **V**, 448; **VI**, 634
 Webber, R. T., 44
 Weber, A., **VII**, 232; **IX**, 309
 Weber, A. L., **VIII**, (467), 762
 Weber, E., **I**, 332; **II**, 269; **III**, 46
 Weber, G. F., **IX**, 1298, 1301, 1376
 Weber, N. A., **VII**, 1005
 Webster, C. C., **IX**, 288; **X**, 659
 Webster, J. E., **VI**, 713
 Webster, J. L., **VI**, 290
 Webster, R. L., **V**, 623; **VI**, 815;
VII, 660; **IX**, 868
 Weeds Section, Department of
 Agriculture and Forestry, S.
 Africa, **X**, 577
 Weetman, L. M., **VI**, 285;
VIII, 1004
 Wehrle, L. P., **IX**, 833
 Weigel, C. A., **VII**, 424
 Weinard, F. F., **V**, 76, 662;
IX, 941
 Weinberger, J. H., **I**, 51; **II**, 227;
VII, 850, 879; **X**, 890
 Weindling, R., **VI**, 855
 Weinhardt, N. G., **X**, 612
 Weir, W., **III**, 7
 Weiss, F., **X**, (188), 1109
 Weiss, F. E., **IV**, 95
 Weiszflog, J., **III**, 510
 Weitz, J., **III**, 148, 149; **IV**, 12,
 127
 Welch, J. H., **IV**, 252
 Weldon, G. P., **VIII**, 387
 Wellensiek, S. J., **I**, 278, 386;
II, 71, 382, 390; **III**, 102,
 388, 389; **IV**, 632, 633, 634,
 636; **VIII**, 222, 223; **IX**, 1391
 Wellington, R., **VIII**, 717; **IX**, 444
 Wellman, F. L., **VII**, 927
 Wellman, H. R., **III**, 278;
VI, 558; **IX**, 188
 Wellman, R. F., **IX**, 663; **X**,
 (1240)
 Weltsch, Z., **VII**, 1077
 Wenholz, H., **I**, 222; **V**, 9
 Went, F. W., **VIII**, 7, 319, 326,
 937, 942, 1338; **IX**, 1104,
 1106, 1116, (1121); **X**, 818
 Wentz, S. W., **I**, 22
 Wenz, H., **VI**, 738
 Wenzl, H., **VIII**, 436, 507
 Werber, A., **VII**, 164
 Werckmeister, P., **VII**, 143
 Wernigg, A. T., **III**, 249
 Wessels, P. H., **VIII**, 140, 172
 West, C., **I**, 100, 198, 407;
II, 302; **III**, 414; **IV**, 288,
 290, 293; **V**, 496, 497;
VI, 203, 935, 940, 941, 942,
 950, 951; **VII**, 487, 1055;
VIII, 1265, 1266, 1268, 1269,
 1271, 1272, 1286, 1287, 1288,
 1289; **IX**, 1450, 1451; **X**, 70,
 321, 322, 323, 328, 329, 330,
 332
 West, D. C., **III**, 33
 West, E., **V**, 131, 135
 West, E. S., **I**, 84, 354; **III**, 2;
IV, 250, 428; **V**, 197, 437;
VIII, 174; **IX**, 199, 202; **X**, 38
 West, J., **VI**, 912; **X**, 1189, 1457,
 1471
 Westcott, C., **IV**, 421
 Western Nutgrowers' Association, **IV**, 309
 Westgate, W. A., **X**, 617
 van der Westhuysen, J. P., **VIII**,
 452
 West Indies, **IV**, 146
 West-Java, Proefstation, **VIII**, 866
 Weston, W. A. R. D., **VIII**, 442
 Westover, K. C., **IV**, 406
 West Virginia, **X**, 449
 de Wet, A. F., **I**, 329; **V**, 175,
 198; **VI**, 650; **VII**, 286, 287
 Wetmore, R. H., **IX**, 1169, 1204
 Wetzell, A., **VIII**, 17, 67; **IX**, 1317,
 1318
 van de Weyen, R., **X**, 1494
 Wharton, M. F., **X**, 1385
 Whatley, C. W., **IX**, 510
 Wheeler, D. H., **IX**, 1489
 Whelan, J. W., **VII**, 304
 Whelan, L. A., **X**, 282, 1199, 1486
 Whetstone, R., **VIII**, 1025
 Whitacre, J., **X**, 740
 Whitaker, T. W., **VIII**, 130;
X, 1060
 Whitcomb, W. D., **VI**, 806;
IX, 134
 White, H. E., **VI**, 813
 White, H. G., **II**, 41
 White, H. L., **VI**, 818; **VIII**, 160,
 485, 504, 1109, (1123); **IX**,
 519, 526; **X**, 1027, 1077
 White, J. T., **VI**, 157
 White, J. R., **VII**, 935; **VIII**,
 638, 640; **IX**, (547)
 White, R., **IX**, 1104
 Whitehead, F. J., **I**, 423
 Whitehead, T., **VII**, 373
 Whitehouse, W. E., **II**, 43; **VII**,
 862
 Whiteland, E. W., **X**, 1478
 Whitelaw, E. W., **IX**, 686
 Whiteman, T. M., **IV**, 244
 White-Stevens, R. H., **VII**, 497;
VIII, 589; **IX**, 1136; **X**, 823
 Whitford, H. N., **II**, 75
 Whitmore, J. E. A. W., **VIII**, 1006
 Whitney, L. D., **VIII**, 849;
X, 250
 Whyte, R. O., **IV**, 316; **X**, 1543
 Wiant, J. S., **VIII**, 437; **IX**, 310,
 311; **X**, 1517
 Wiche, P. O., **IX**, 1439
 Wickens, G. M., **IX**, 164
 Wickens, G. W., **VII**, 16; **VIII**,
 957; **X**, 43
 Wickersham, C. P., **V**, 557
 Wicks, H. N., **I**, 232
 Widdowson, E. M., **III**, 458;
VI, 6; **X**, 769
 Widmer, A., **VIII**, 910, 1327;
X, 744, 745, 746, 749
 Wiegand, E. H., **I**, 310; **VI**, 649;
VII, 241; **IX**, 324
 Wiehe, P. O., **X**, 306
 Wierszylowski, J., **VIII**, 673, 675
 Wiese, E., **X**, 828
 Wiesmann, R., **IV**, 75, 571, 572;
VII, 656; **IX**, 116, 400;
X, 547, 554
 Wiggs, L. G. T., **VIII**, 1224; **X**, 695
 Wiggans, C. C., **VI**, 689; **VII**, 581
 Wight, W., **X**, 252
 Wight, W. F., **X**, 853
 Wilbaux, R., **V**, 113; **VI**, 928;
VII, 1100, 1102; **VIII**, 912;
IX, 669; **X**, 1472, 1537, 1538
 Wilbrink, W. G. J., **IX**, 1400
 Wilcox, A. N., **VII**, 548
 Wilcox, H. W., **VII**, 332
 Wilcox, J., **VI**, 308
 Wilcox, J. C., **VII**, 565; **VIII**, 383;
IX, 91
 Wilcox, L. V., **X**, 837
 Wilcox, R. B., **IV**, 218
 Wilcoxon, F., **IV**, 85; **V**, 521;
VII, 358, 359; **IX**, 491, 492,
 1101, 1284
 Wilde, J. E., **V**, 664
 de Wildeman, E., **V**, 137
 Wildon, C. E., **IX**, 401
 Wiley, W. J., **I**, 271
 Wilhelm, A. F., **III**, 478; **VIII**,
 430
 Wilkinson, E. H., **IX**, 1058
 Willard, D. R., **IX**, 896
 Willard, H. F., **VIII**, 206
 Wille, J., **I**, 187; **II**, 181
 Williams, A. N. P., **VI**, 918
 Williams, C. F., **II**, 236; **IX**, 439,
 441, 815, 816
 Williams, C. G., **III**, 606
 Williams, C. H. B., **I**, 275;
X, 1435
 Williams, G., **II**, 48
 Williams, H. B., **VII**, 994
 Williams, J. L., **III**, 169
 Williams, K. T., **IX**, 26
 Williams, P. H., **VIII**, 132, 143,
 149, 161, 1099; **IX**, 553;
X, 1027
 Williams, R. O., **II**, 367; **VIII**,
 536; **IX**, 189
 Williams, W. H., **III**, 372; **VI**, 232
 Williams, W. J. V., **VI**, 502
 Williams, W. O., **VI**, 720; **IX**,
 449; **X**, 940
 Williams, W. R. L., **VIII**, 79;
IX, 1217
 Willimott, S. G., **VII**, 453
 Willis, J. C., **X**, 23
 Willison, R. S., **II**, 141; **III**, 498;
VI, 74, 305; **IX**, 1458; **X**, 126
 Wills, J. M., **VIII**, 540; **X**, 291,
 653
 Wilshaw, R. G. H., **X**, 1497
 Wilson, A. R., **VII**, 118, 815
 Wilson, E. E., **IV**, 557; **V**, 399;
VII, 335; **VIII**, 446, 747;
IX, 1223
 Wilson, G. F., **V**, 431; **VIII**, 501
 Wilson, H. L., **III**, 352
 Wilson, J., **V**, 363
 Wilson, J. D., **VI**, 293
 Wilson, P. W., **IV**, 237
 Wilson, R. D., **IX**, 353; **X**, 175
 Wilson, W. F., Jr., **X**, 439
 Wilton, O. C., **VII**, 136

AUTHOR INDEX

- Wiltshire, J. L., **IV**, 646
 Windle, E. G., **IV**, 307
 Winklepleck, R. L., **X**, 873
 Winkler, A. J., **II**, 38; 265;
IV, 369, 548; **V**, 376; **VI**,
 720; **VIII**, 63; **IX**, 449;
X, 940
 Winkler, H., **VIII**, 1228
 Winston, J. R., **II**, 279, 372;
III, 374, 599, 600; **VI**, 217,
 858; **VII**, 725; **IX**, 1447;
X, 1120, 1232
 Winter, E. J., **X**, 1443
 Winter, J. D., **VI**, 706, 964, 965;
VII, 917; **VIII**, 894; **X**, 1229,
 1230, 1337
 Wisecup, C. B., **VII**, 357
 Wishart, J., **X**, 451
 Wissing, P., **X**, 315, 381, (383)
 Wit, F., **IX**, 984
 Withrow, R. B., **V**, 333; **VII**,
 275, 405
 Witt, A. W., **I**, 6, 131; **VIII**, 720;
IX, 454
 Witt, N. F., **VII**, 491
 Witte, P. J., **IX**, 577
 Woglum, R. S., **X**, 1131
 Wojciechowski, J., **VIII**, 9, 653
 Wolcot, G. N., **X**, 1504
 Wolfe, H. S., **V**, 108; **VIII**, 820
 Wolff, G. F., **V**, 153
 Wollenweber, H. W., **VII**, 896
 Wolnicka, J., **VIII**, 639
 Wong, C. Y., **X**, (821), (1136)
 Wood, J., **X**, 186
 Wood, J. F., **IX**, 198
 Wood, M., **X**, 1368
 Wood, M. N., **III**, 481; **IV**, 212;
VIII, 68, 71
 Wood, R. C., **II**, 408; **IV**, 114,
 624; **VI**, 885, 932; **VII**, 1007;
VIII, 1183; **IX**, 229
 Woodbridge, C. G., **VIII**, 397
 Woodcock, J. W., **IX**, 172
 Woodfin, J. C., **C**, 36; **VII**, 307
 Woodhead, C. E., **III**, 291;
IV, 32; **V**, 169; **IX**, 1227;
X, 487
 Woodward, R. M., **I**, 271; **VII**,
 117, 1089; **IX**, 910, 911, 1275;
X, 142, 152, 1057
 Woodrooff, J. G., **III**, 174, 483;
V, 39; **IX**, 661
 Woodrow, A. W., **IV**, 46
 Woodruff, J. G., **VI**, 717
 Woodruff, S., **IX**, 925
 Woods, J. J., **V**, 372, 585;
VIII, 114, 1106; **IX**, 129;
X, 603
 Woodworth, H. C., **II**, 8
 Wooldridge A. J., **X**, 1374
 Wootton, L. B., **VIII**, 655
 Work, P., **VIII**, 140
 Work, R. A., **V**, 190, 348;
VI, 274
 Worlock, R. F., **X**, 854
 Wormald, H., **II**, 344; **IV**, 219;
V, 216, 221, 305, 325; **VI**,
 480, 487; **VII**, 334, 642, 645,
 769; **VIII**, 741, 742, 1044;
IX, 352, 855, 860, 865;
X, (952), 985, 1224, 1363
 Wormser, M. G., **IX**, 262
 Worsley, R. R. le G., **IV**, 491;
V, 114, 287; **VII**, 480, 996,
 997; **X**, 311, 1012
 Worthley, H. N., **V**, 616, 618;
VII, 100; **X**, 121, (1378)
 Wóycicki, S., **VIII**, 629; **IX**, 175,
 942
 Wright, D. W., **VIII**, 1094
 Wright, J., **IX**, 699
 Wright, J. A., **VI**, 89
 Wright, L. E., **II**, 26; **VIII**, 350;
X, 467
 Wright, N., **VI**, 363, 829
 Wright, R. C., **IV**, 244; **VII**,
 1071; **VIII**, 888
 Wright, S. J., **V**, 64
 Wróblewski, A., **IX**, 779
 Wundrig, G., **IX**, 425
 Wye, I., 321; **II**, 95, 309; **III**,
 427, 428; **IV**, 145; **V**, 159;
VI, 615; **X**, 725
 van Wyk, D. J. R., **II**, 44
 van Wyk, G. F., **X**, 1234
 van Wyk, S. P., **X**, 1305
 Wyllie, J., **III**, 276; **IX**, 404
 Wyman, D., **V**, 167, 655; **VII**, 149
 Yabrova, V. S., **VIII**, 829
 Yago, M., **IV**, 536
 Yakimovich, A. D., **IX**, 522
 Yalta, Nikita State Botanical
 Gardens, **X**, 416, 671, 771
 Yamashita, K., **VIII**, (1203)
 Yamashita, T., **VI**, 825; **VIII**, 981
 Yamashita, Y., **X**, 56
 Yap, F., **IX**, 1381, 1441; **X**, (1510)
 Yap, S. T., **VII**, 1011
 Yarnell, S. H., **IV**, 410; **VI**, 368;
VIII, 714; **X**, 740
 Yaroshenko, P. D., **VIII**, 829
 Yaroslavtseva, N. F., **X**, 614
 Yarwood, C. E., **VIII**, 162
 Yasaka, T., **I**, 234
 Yasuda, R., **IV**, 524
 Yates, F., **III**, 142, 275; **VI**, 255;
VIII, 1339; **X**, (1304)
 Yamotai, Y., **VII**, 866
 Yeager, A. F., **V**, 532, 533;
VI, 249, 654; **X**, (921)
 Yedidyah, S., **IV**, 103, 607;
V, 378; **VIII**, 526
 Yerkes, G. E., **VI**, 443; **VIII**, 50,
 975, 977; **X**, 867
 Yersin, A., **V**, 288; **IX**, 1027
 Yetter, W. P., **X**, 1002
 Ynalvez, L. A., **VII**, 274
 Yocom, W. W., **IX**, 66
 Yothers, M. A., **IV**, 225; **V**, 608;
IX, (1234)
 Youden, W. J., **I**, 421; **V**, 620;
VII, 385; **X**, 806, 1029
 Young, H. Y., **IX**, 649, 1046;
X, 304, 305, (718)
 Young, J. O., **IX**, 1172
 Young, L. C., **VII**, 325
 Young, P. A., **IV**, 77, 567;
V, 581; **VI**, 341, 351; **IX**,
 1294; **X**, 1073
 Young, R. E., **X**, 1050
 Young, R. S., **V**, 331
- Young, W. J., **II**, 304
 Yu, T. F., **V**, 648; **VI**, 205;
X, 524
 Yuasa, A., **VII**, 33
 Yudincova, E. A., **VIII**, 35
 Yukanova, O. N., **IX**, 683
 Yuille, H. B., **VI**, 903
 Zaaijer, J. W., **IX**, 1380
 Zaayer, J. W., **IX**, 258
 Zaccagnini, A., **I**, 72, 73, 74
 Zagorodny, G. P., **X**, 1096
 Zakharova, E. I., **VIII**, 968;
IX, 1155; **X**, 463, 517
 Zaldastanishvili, S. G., **VIII**, 224;
IX, 560
 Zander, R., **VIII**, 1333
 Zanotti, L., **IX**, 562
 Zanzibar, **VIII**, 1377; **IX**, 1543;
X, 1589
 Zaostrovskaya, E. N., **VIII**, 1082;
IX, (1515)
 Zaretsky, A. J., **IV**, 442; **VI**, 826
 Zarubin, A., **VIII**, 70
 Zarubin, A. F., **X**, 946
 Zaumeyer, W. J., **IX**, 159
 Zayets, V. K., **VIII**, 961, 979
 Zeilinga, A. E., **II**, 169; **V**, 454
 Zelensky, M. A., **IX**, 1152
 Zeller, A., **IX**, 903
 Zeller, S. M., **IV**, 217, 559;
VII, 71; **IX**, 469
 Zemliansky, S. E., **IX**, 1000
 Zerling, V. V., **IX**, 746
 Zhdanova, L. R., **IX**, 9, 10, 13
 Zhelezniakova, V. I., **VIII**, 412
 Zhigarevich, I., **IX**, 997
 Zhigarevich, I. A., **VIII**, 541
 Zhuchkov, N. G., **VIII**, 303;
IX, 428
 Zhukovsky, P., **IV**, 144
 Zillig, H., **I**, 263; **VIII**, 430
 Zilva, S. S., **I**, 198, 413, 414;
II, 188; **III**, 263; **IV**, 162;
VI, 944; **VII**, 1064; **VIII**,
 1269; **X**, 377, 390
 Zimmerman, E., **IV**, 356
 Zimmerman, P. W., **II**, 114;
III, 152, 293, 521, 525, 526;
V, 521; **VI**, 624, 626; **VII**,
 262, 264, 265, 374, 385, 818;
IX, 356, 357, 358, 1100, 1101,
 1105, 1107; (**1121**), 1122, 1206;
X, 796, 797
 Zimmerman, A., **II**, 42
 Zink, F. J., **VII**, 273; **VIII**, 14
 Zinn, F., **IX**, 179
 Zito, F., **X**, 945
 Zohary, M. X., (226)
 Zorin, F. M., **IX**, 63, 969
 Zozulya, V. S., **X**, 380
 Žubeckis, E., **IX**, 1147
 Zubov, M., **IX**, 101
 Zubov, M. F., **X**, 570
 Zurick, Z., **IV**, 81
 Zweede, A. K., **VI**, 61; **VII**, 523;
IX, 57
 Zweifel, G., **I**, 106
 Zwingenberger, H., **VIII**, 514
 Zycha, H., **IX**, 926
 de Zylva, St. L. H., **IX**, 1053

VOL. X. No. 1, ABS. 1-450

MARCH, 1940



IMPERIAL BUREAU OF HORTICULTURE
AND PLANTATION CROPS

HORTICULTURAL ABSTRACTS

Issued quarterly by the Imperial Bureau of Horticulture and Plantation Crops, East Malling, Kent, England. Price 25/- a volume of four numbers, single copies 6/6. Concession price to subscribers ordering direct in Great Britain and other countries of the British Commonwealth of Nations 20/- a volume, single copies 5/-.

IMPERIAL AGRICULTURAL BUREAUX

EXECUTIVE COUNCIL,

2 Queen Anne's Gate Buildings, London, S.W.1.

IMPERIAL BUREAU OF SOIL SCIENCE,

Rothamsted Experimental Station, Harpenden, Herts.

IMPERIAL BUREAU OF ANIMAL NUTRITION,

The Reid Library, Rowett Institute, Bucksburn, Aberdeen.

IMPERIAL BUREAU OF ANIMAL HEALTH,

Veterinary Laboratory, New Haw, Weybridge, Surrey.

IMPERIAL BUREAU OF ANIMAL BREEDING AND GENETICS,

King's Buildings, University of Edinburgh, Scotland.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,

School of Agriculture, Cambridge.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS,

Agricultural Research Building, Penglais, Aberystwyth.

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,

East Malling Research Station, East Malling, Kent.

IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY (HELMINTHOLOGY),

Winches Farm, Hatfield Road, St. Albans, Herts.

IMPERIAL FORESTRY BUREAU,

39 Museum Road, Oxford.

IMPERIAL BUREAU OF DAIRY SCIENCE,

National Institute for Research in Dairying, Shinfield, Reading.

STAFF OF THE IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS.

<i>Director</i>	R. G. HATTON, C.B.E., M.A., D.Sc.
<i>Deputy Director</i>	D. AKENHEAD, M.A., B.Sc.
<i>Assistant</i>	G. ST. CLAIR FEILDEN, B.A.

PUBLICATIONS STILL AVAILABLE, MARCH 1940

HORTICULTURAL ABSTRACTS

Issued Quarterly since April 1931.

Volumes I and II Subscription 15/-, Single parts 4/-. Subsequent volumes 25/-, Single parts 6/6. Concession price to subscribers in the British Commonwealth of Nations ordering direct 10/-, 2/6 and 20/-, 5/- respectively.

TECHNICAL COMMUNICATIONS

2. FIELD EXPERIMENTS IN HORTICULTURE. 1931. *T. N. Hoblyn.* .2/-.
3. INVESTIGATIONS ON THE STANDARDIZATION OF CITRUS TREES BY PROPAGATION METHODS. 1932. .2/-.
4. PROBLEMS OF FRUIT TREE NUTRITION. 1933. *Dr. T. Wallace.* 2/-.
5. THE "DEGENERATION" OF THE STRAWBERRY. 1934. *D. Akenhead, R. V. Harris, G. H. Berkeley, A. M. Massee.* .2/-.
6. THE NUTRITION AND MANURING OF SOFT FRUITS. 1936. *Dr. T. Wallace.* 2/-.
7. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL FRUITS. 1936. *G. St. Clair Feilden and R. J. Garner.* .2/-.
8. HORTICULTURAL ASPECTS OF WOOLLY APHIS CONTROL, TOGETHER WITH A SURVEY OF THE LITERATURE. 1936. *R. M. Greenslade.* .2/6.
9. A REVIEW OF THE LITERATURE ON STOCK-SCION INCOMPATIBILITY IN FRUIT TREES, WITH PARTICULAR REFERENCE TO POME AND STONE FRUITS. 1937. *G. K. Argles.* 5/-.
10. PLANT INJECTION FOR DIAGNOSTIC AND CURATIVE PURPOSES. 1938. *W. A. Roach.* 5/-.
11. FRUIT JUICES AND RELATED PRODUCTS. 1939. *V. L. S. Charley and T. H. J. Harrison.* 5/-.
12. PLANT HORMONES AND THEIR PRACTICAL IMPORTANCE IN HORTICULTURE. 1939. *H. L. Pearse.* 3/6.
13. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL PLANTATION CROPS. 1940. *G. St. Clair Feilden and R. J. Garner.* 3/6.

OCCASIONAL PAPERS

1. TECHNIQUE IN POT CULTURE FOR FRUIT PLANTS. 1933. *Dr. T. Wallace.* 6d. (stencil).
2. EXPERIMENTAL DATA ON ORCHARD AND SMALL FRUIT MANURING. 1933. *S. T. Antoshin.* 1/-.
3. ANNOTATED BIBLIOGRAPHY ON BITTER PIT. 1934. 1/6.
5. THE FRAMEWORKING OF FRUIT TREES. 1938. *R. J. Garner and W. F. Walker.* 1/-.

OTHER PUBLICATIONS

- INDEX TO VOLUMES I-X OF THE JOURNAL OF POMOLOGY AND HORTICULTURAL SCIENCE. 1933.
Compiled by the Bureau, published by the editors of the journal. Available from
Bureau, 5/-.

A few separates from the PROCEEDINGS OF THE 1ST IMPERIAL HORTICULTURAL CONFERENCE, 1930,
are available at 3d. each, list on application.

IMPERIAL AGRICULTURAL BUREAUX

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT

For full list of publications see inside cover.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS

SCHOOL OF AGRICULTURE, CAMBRIDGE

Covers literature on the breeding, genetics and cytology of economic plants, including forage crops, fruits and forest trees and relevant publications in allied fields such as applied statistics, plant pathology and other sciences.

Publishes quarterly—*Plant Breeding Abstracts*.

Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL FORESTRY BUREAU

39 MUSEUM ROAD, OXFORD

Covers literature on all branches of forestry.

Publishes quarterly—*Forestry Abstracts*. Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS

ABERYSTWYTH

Covers literature on grassland and forage crops, the botanical aspects of soil conservation and certain plant biological research.

Publishes quarterly—*Herbage Abstracts* and *Herbage Reviews*.

Annual Subscription—*Herbage Abstracts* 25/-,* single numbers 7/-.

Herbage Reviews 15/-, single numbers 4/-.

IMPERIAL BUREAU OF SOIL SCIENCE

ROTHAMSTED EXPERIMENT STATION, HARPENDEN

Covers literature on soils, fertilizers and general agronomy.

Issues 6 times a year an abstract journal—*Soils and Fertilizers*.

Annual Subscription 25/-* a year.

* Concession price of 20/- to subscribers in the British Commonwealth sending their subscriptions direct to Bureau.

Each Bureau also issues occasional papers and bibliographies. Details of these can be obtained from its Deputy Director to whom also subscriptions for abstracts should be sent.

VOL. X. No. 2, ABS. 451-792

JUNE, 1940



IMPERIAL BUREAU OF HORTICULTURE
AND PLANTATION CROPS

HORTICULTURAL ABSTRACTS

Issued quarterly by the Imperial Bureau of Horticulture and Plantation Crops, East Malling, Kent, England. Price 25/- a volume of four numbers, single copies 6/6. Concession price to subscribers ordering direct in Great Britain and other countries of the British Commonwealth of Nations 20/- a volume, single copies 5/-

IMPERIAL AGRICULTURAL BUREAUX

EXECUTIVE COUNCIL.

2 Queen Anne's Gate Buildings, London, S.W.1.

IMPERIAL BUREAU OF SOIL SCIENCE,

Rothamsted Experimental Station, Harpenden, Herts.

IMPERIAL BUREAU OF ANIMAL NUTRITION,

The Reid Library, Rowett Institute, Bucksburn, Aberdeen.

IMPERIAL BUREAU OF ANIMAL HEALTH,

Veterinary Laboratory, New Haw, Weybridge, Surrey.

IMPERIAL BUREAU OF ANIMAL BREEDING AND GENETICS,

King's Buildings, University of Edinburgh, Scotland.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,

School of Agriculture, Cambridge.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS,

Agricultural Research Building, Penglais, Aberystwyth.

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,

East Malling Research Station, East Malling, Kent.

IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY (HELMINTHOLOGY),

Winches Farm, Hatfield Road, St. Albans, Herts.

IMPERIAL FORESTRY BUREAU,

39 Museum Road, Oxford.

IMPERIAL BUREAU OF DAIRY SCIENCE,

National Institute for Research in Dairying, Shinfield, Reading.

STAFF OF THE IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS.

Director R. G. HATTON, C.B.E., M.A., D.Sc.

Deputy Director D. AKENHEAD, M.A., B.Sc.

Assistant G. ST. CLAIR FEILDEN, B.A.

PUBLICATIONS STILL AVAILABLE, JUNE 1940

HORTICULTURAL ABSTRACTS

Issued Quarterly since April 1931.

Volumes I and II Subscription 15/-, Single parts 4/-. Subsequent volumes 25/-, Single parts 6/6. Concession price to subscribers in the British Commonwealth of Nations ordering direct 10/-, 2/6 and 20/-, 5/- respectively.

TECHNICAL COMMUNICATIONS

2. FIELD EXPERIMENTS IN HORTICULTURE. 1931. *T. N. Hoblyn.* 2/-.
3. INVESTIGATIONS ON THE STANDARDIZATION OF CITRUS TREES BY PROPAGATION METHODS. 1932. 2/-.
4. PROBLEMS OF FRUIT TREE NUTRITION. 1933. *Dr. T. Wallace.* 2/-.
5. THE "DEGENERATION" OF THE STRAWBERRY. 1934. *D. Akenhead, R. V. Harris, G. H. Berkeley, A. M. Massée.* 2/-.
6. THE NUTRITION AND MANURING OF SOFT FRUITS. 1936. *Dr. T. Wallace.* 2/-.
7. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL FRUITS. 1936. *G. St. Clair Feilden and R. J. Garner.* 2/-.
8. HORTICULTURAL ASPECTS OF WOOLLY APHIS CONTROL, TOGETHER WITH A SURVEY OF THE LITERATURE. 1936. *R. M. Greenslade.* 2/6.
9. A REVIEW OF THE LITERATURE ON STOCK-SCION INCOMPATIBILITY IN FRUIT TREES, WITH PARTICULAR REFERENCE TO POME AND STONE FRUITS. 1937. *G. K. Argles.* 5/-.
10. PLANT INJECTION FOR DIAGNOSTIC AND CURATIVE PURPOSES. 1938. *W. A. Roach.* 5/-.
11. FRUIT JUICES AND RELATED PRODUCTS. 1939. *V. L. S. Charley and T. H. J. Harrison.* 5/-.
12. PLANT HORMONES AND THEIR PRACTICAL IMPORTANCE IN HORTICULTURE. 1939. *H. L. Pearse.* 3/6.
13. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL PLANTATION CROPS. 1940. *G. St. Clair Feilden and R. J. Garner.* 3/6.

OCCASIONAL PAPERS

1. TECHNIQUE IN POT CULTURE FOR FRUIT PLANTS. 1933. *Dr. T. Wallace.* 6d. (stencil).
2. EXPERIMENTAL DATA ON ORCHARD AND SMALL FRUIT MANURING. 1933. *S. T. Antoshin.* 1/-.
3. ANNOTATED BIBLIOGRAPHY ON BITTER PIT. 1934. 1/6.
5. THE FRAMEWORKING OF FRUIT TREES. 1938. *R. J. Garner and W. F. Walker.* 1/-.

OTHER PUBLICATIONS

INDEX TO VOLUMES I-X OF THE JOURNAL OF POMOLOGY AND HORTICULTURAL SCIENCE. 1933. Compiled by the Bureau, published by the editors of the journal. Available from Bureau, 5/-.

A few separates from the PROCEEDINGS OF THE 1ST IMPERIAL HORTICULTURAL CONFERENCE, 1930, are available at 3d. each, list on application.

IMPERIAL AGRICULTURAL BUREAUX

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT

For full list of publications see inside cover.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS

SCHOOL OF AGRICULTURE, CAMBRIDGE

Covers literature on the breeding, genetics and cytology of economic plants, including forage crops, fruits and forest trees and relevant publications in allied fields such as applied statistics, plant pathology and other sciences.

Publishes quarterly—*Plant Breeding Abstracts*.

Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL FORESTRY BUREAU

39 MUSEUM ROAD, OXFORD

Covers literature on all branches of forestry.

Publishes quarterly—*Forestry Abstracts*. Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS

ABERYSTWYTH

Covers literature on grassland and forage crops, the botanical aspects of soil conservation and certain plant biological research.

Publishes quarterly—*Herbage Abstracts* and *Herbage Reviews*.

Annual Subscription—Herbage Abstracts 25/-,* single numbers 7/-.

Herbage Reviews 15/-, single numbers 4/-.

IMPERIAL BUREAU OF SOIL SCIENCE

ROTHAMSTED EXPERIMENT STATION, HARPENDE

Covers literature on soils, fertilizers and general agronomy.

Issues 6 times a year an abstract journal—*Soils and Fertilizers*.

Annual Subscription 25/-,* a year.

* Concession price of 20/- to subscribers in the British Commonwealth sending their subscriptions direct to Bureau.

Each Bureau also issues occasional papers and bibliographies. Details of these can be obtained from its Deputy Director to whom also subscriptions for abstracts should be sent.

VOL. X. No. 3, ABS. 793-1271

SEPTEMBER, 1940



IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS

HORTICULTURAL ABSTRACTS

Issued quarterly by the Imperial Bureau of Horticulture and Plantation Crops, East Malling, Kent, England. Price 25/- a volume of four numbers, single copies 6/6. Concession price to subscribers ordering direct in Great Britain and other countries of the British Commonwealth of Nations 20/- a volume, single copies 5/-. Payments in sterling or at Bank of England rates of exchange.

IMPERIAL AGRICULTURAL BUREAUX

EXECUTIVE COUNCIL,
2 Queen Anne's Gate Buildings, London, S.W.1.

IMPERIAL BUREAU OF SOIL SCIENCE,
Rothamsted Experimental Station, Harpenden, Herts.

IMPERIAL BUREAU OF ANIMAL NUTRITION,
The Reid Library, Rowett Institute, Bucksburn, Aberdeen.

IMPERIAL BUREAU OF ANIMAL HEALTH,
Veterinary Laboratory, New Haw, Weybridge, Surrey.

IMPERIAL BUREAU OF ANIMAL BREEDING AND GENETICS,
King's Buildings, University of Edinburgh, Scotland.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,
School of Agriculture, Cambridge.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS,
Agricultural Research Building, Penglais, Aberystwyth.

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,
East Malling Research Station, East Malling, Kent.

IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY (HELMINTHOLOGY),
Winches Farm, Hatfield Road, St. Albans, Herts.

IMPERIAL FORESTRY BUREAU,
39 Museum Road, Oxford.

IMPERIAL BUREAU OF DAIRY SCIENCE,
National Institute for Research in Dairying, Shinfield, Reading.

STAFF OF THE IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS.

Director. R. G. HATTON, C.B.E., M.A., D.Sc.

Deputy Director. D. AKENHEAD, M.A., B.Sc.

Assistant. G. ST. CLAIR FEILDEN, B.A.

PUBLICATIONS STILL AVAILABLE, SEPTEMBER 1940

HORTICULTURAL ABSTRACTS

Issued Quarterly since April 1931.

Volumes I and II Subscription 15/-, Single parts 4/-. Subsequent volumes 25/-, Single parts 6/6. Concession price to subscribers in the British Commonwealth of Nations ordering direct 10/-, 2/6 and 20/-, 5/- respectively.

TECHNICAL COMMUNICATIONS

2. FIELD EXPERIMENTS IN HORTICULTURE. 1931. *T. N. Hoblyn*. 2/-.
3. INVESTIGATIONS ON THE STANDARDIZATION OF CITRUS TREES BY PROPAGATION METHODS. 1932. 2/-.
4. PROBLEMS OF FRUIT TREE NUTRITION. 1933. *Dr. T. Wallace*. 2/-.
5. THE "DEGENERATION" OF THE STRAWBERRY. 1934. *D. Akenhead, R. V. Harris, G. H. Berkeley, A. M. Massee*. 2/-.
6. THE NUTRITION AND MANURING OF SOFT FRUITS. 1936. *Dr. T. Wallace*. 2/-.
7. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL FRUITS. 1936. *G. St. Clair Feilden and R. J. Garner*. 2/-.
8. HORTICULTURAL ASPECTS OF WOOLLY APHIS CONTROL, TOGETHER WITH A SURVEY OF THE LITERATURE. 1936. *R. M. Greenslade*. 2/6.
9. A REVIEW OF THE LITERATURE ON STOCK-SCION INCOMPATIBILITY IN FRUIT TREES, WITH PARTICULAR REFERENCE TO POME AND STONE FRUITS. 1937. *G. K. Argles*. 5/-.
10. PLANT INJECTION FOR DIAGNOSTIC AND CURATIVE PURPOSES. 1938. *W. A. Roach*. 5/-.
11. FRUIT JUICES AND RELATED PRODUCTS. 1939. *V. L. S. Charley and T. H. J. Harrison*. 5/-.
12. PLANT HORMONES AND THEIR PRACTICAL IMPORTANCE IN HORTICULTURE. 1939. *H. L. Pearse*. 3/6.
13. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL PLANTATION CROPS. 1940. *G. St. Clair Feilden and R. J. Garner*. 3/6.

OCCASIONAL PAPERS

1. TECHNIQUE IN POT CULTURE FOR FRUIT PLANTS. 1933. *Dr. T. Wallace*. 6d. (stencil).
2. EXPERIMENTAL DATA ON ORCHARD AND SMALL FRUIT MANURING. 1933. *S. T. Antoshin*. 1/-.
3. ANNOTATED BIBLIOGRAPHY ON BITTER PIT. 1934. 1/6.
5. THE FRAMEWORKING OF FRUIT TREES. 1938. *R. J. Garner and W. F. Walker*. 1/-.

OTHER PUBLICATIONS

INDEX TO VOLUMES I-X OF THE JOURNAL OF POMOLOGY AND HORTICULTURAL SCIENCE. 1933. Compiled by the Bureau, published by the editors of the journal. Available from Bureau, 5/-.

A few separates from the PROCEEDINGS OF THE 1ST IMPERIAL HORTICULTURAL CONFERENCE, 1930, are available at 3d. each, list on application.

N.B.—Payment in sterling. If drafts in other currencies are sent, official or Bank of England rates only can be accepted.

IMPERIAL AGRICULTURAL BUREAUX

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT

For full list of publications see inside cover.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS

SCHOOL OF AGRICULTURE, CAMBRIDGE

Covers literature on the breeding, genetics and cytology of economic plants, including forage crops, fruits and forest trees and relevant publications in allied fields such as applied statistics, plant pathology and other sciences.

Publishes quarterly—*Plant Breeding Abstracts*.

Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL FORESTRY BUREAU

39 MUSEUM ROAD, OXFORD

Covers literature on all branches of forestry.

Publishes quarterly—*Forestry Abstracts*. Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS

ABERYSTWYTH

Covers literature on grassland and forage crops, the botanical aspects of soil conservation and certain plant biological research.

Publishes quarterly—*Herbage Abstracts* and *Herbage Reviews*.

Annual Subscription—Herbage Abstracts 25/-,* single numbers 7/-.
Herbage Reviews 15/-, single numbers 4/-.

N.B.—Herbage Reviews is to be discontinued at the end of 1940 until further notice.

IMPERIAL BUREAU OF SOIL SCIENCE

ROTHAMSTED EXPERIMENT STATION, HARPENDEN

Covers literature on soils, fertilizers and general agronomy.

Issues 6 times a year an abstract journal—*Soils and Fertilizers*.

Annual Subscription 25/-* a year.

* Concession price of 20/- to subscribers in the British Commonwealth sending their subscriptions direct to Bureau.

Each Bureau also issues occasional papers and bibliographies. Details of these can be obtained from its Deputy Director to whom also subscriptions for abstracts should be sent.

PLEASE SEE NOTES on page 404

VOL. X. No. 4, ABS. 1272-1589

DECEMBER, 1940



**IMPERIAL BUREAU OF HORTICULTURE
AND PLANTATION CROPS**

HORTICULTURAL ABSTRACTS

Issued quarterly by the Imperial Bureau of Horticulture and Plantation Crops, East Malling, Kent, England. Price 25/- a volume of four numbers, single copies 6/6. Concession price to subscribers ordering direct in Great Britain and other countries of the British Commonwealth of Nations 20/- a volume, single copies 5/-. Payments in sterling or at Bank of England rates of exchange.

IMPERIAL AGRICULTURAL BUREAUX

EXECUTIVE COUNCIL,
2 Queen Anne's Gate Buildings, London, S.W.1.

IMPERIAL BUREAU OF SOIL SCIENCE,
Rothamsted Experimental Station, Harpenden, Herts.

IMPERIAL BUREAU OF ANIMAL NUTRITION,
The Reid Library, Rowett Institute, Bucksburn, Aberdeen.

IMPERIAL BUREAU OF ANIMAL HEALTH,
Veterinary Laboratory, New Haw, Weybridge, Surrey.

IMPERIAL BUREAU OF ANIMAL BREEDING AND GENETICS,
King's Buildings, University of Edinburgh, Scotland.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,
School of Agriculture, Cambridge.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS,
Agricultural Research Building, Penglais, Aberystwyth.

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,
East Malling Research Station, East Malling, Kent.

IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY (HELMINTHOLOGY),
Winches Farm, Hatfield Road, St. Albans, Herts.

IMPERIAL FORESTRY BUREAU,
39 Museum Road, Oxford.

IMPERIAL BUREAU OF DAIRY SCIENCE,
National Institute for Research in Dairying, Shinfield, Reading.

STAFF OF THE IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS.

Director R. G. HATTON, C.B.E., M.A., D.Sc.

Deputy Director D. AKENHEAD, M.A., B.Sc.

Assistant G. ST. CLAIR FEILDEN, B.A.

PUBLICATIONS STILL AVAILABLE, DECEMBER 1940

HORTICULTURAL ABSTRACTS

Issued Quarterly since April 1931.

Volumes I and II Subscription 15/-, Single parts 4/-. Subsequent volumes 25/-, Single parts 6/6. Concession price to subscribers in the British Commonwealth of Nations ordering direct 10/-, 2/6 and 20/-, 5/- respectively.

TECHNICAL COMMUNICATIONS

2. FIELD EXPERIMENTS IN HORTICULTURE. 1931. *T. N. Hoblyn*. 2/-.
3. INVESTIGATIONS ON THE STANDARDIZATION OF CITRUS TREES BY PROPAGATION METHODS. 1932. 2/-.
4. PROBLEMS OF FRUIT TREE NUTRITION. 1933. *Dr. T. Wallace*. 2/-.
5. THE "DEGENERATION" OF THE STRAWBERRY. 1934. *D. Akenhead, R. V. Harris, G. H. Berkeley, A. M. Massee*. 2/-.
6. THE NUTRITION AND MANURING OF SOFT FRUITS. 1936. *Dr. T. Wallace*. 2/-.
7. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL FRUITS. 1936. *G. St. Clair Feilden and R. J. Garner*. 2/-.
8. HORTICULTURAL ASPECTS OF WOOLLY APHIS CONTROL, TOGETHER WITH A SURVEY OF THE LITERATURE. 1936. *R. M. Greenslade*. 2/6.
9. A REVIEW OF THE LITERATURE ON STOCK-SCION INCOMPATIBILITY IN FRUIT TREES, WITH PARTICULAR REFERENCE TO POME AND STONE FRUITS. 1937. *G. K. Argles*. 5/-.
10. PLANT INJECTION FOR DIAGNOSTIC AND CURATIVE PURPOSES. 1938. *W. A. Roach*. 5/-.
11. FRUIT JUICES AND RELATED PRODUCTS. 1939. *V. L. S. Charley and T. H. J. Harrison*. 5/-.
12. PLANT HORMONES AND THEIR PRACTICAL IMPORTANCE IN HORTICULTURE. 1939. *H. L. Pearse*. 3/6.
13. VEGETATIVE PROPAGATION OF TROPICAL AND SUB-TROPICAL PLANTATION CROPS. 1940. *G. St. Clair Feilden and R. J. Garner*. 3/6.

OCCASIONAL PAPERS

1. TECHNIQUE IN POT CULTURE FOR FRUIT PLANTS. 1933. *Dr. T. Wallace*. 6d. (stencil).
2. EXPERIMENTAL DATA ON ORCHARD AND SMALL FRUIT MANURING. 1933. *S. T. Antoshin*. 1/-.
3. ANNOTATED BIBLIOGRAPHY ON BITTER PIT. 1934. 1/6.
5. THE FRAMEWORKING OF FRUIT TREES. 1938. *R. J. Garner and W. F. Walker*. 1/-.

OTHER PUBLICATIONS

INDEX TO VOLUMES I-X OF THE JOURNAL OF POMOLOGY AND HORTICULTURAL SCIENCE. 1933.
Compiled by the Bureau, published by the editors of the journal. Available from
Bureau, 5/-.

A few separates from the PROCEEDINGS OF THE 1ST IMPERIAL HORTICULTURAL CONFERENCE, 1930,
are available at 3d. each, list on application.

N.B.—Payment in sterling. If drafts in other currencies are sent, official or Bank of England
rates only can be accepted.

IMPERIAL AGRICULTURAL BUREAUX

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT

For full list of publications see inside cover.

IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS

SCHOOL OF AGRICULTURE, CAMBRIDGE

Covers literature on the breeding, genetics and cytology of economic plants, including forage crops, fruits and forest trees and relevant publications in allied fields such as applied statistics, plant pathology and other sciences.

Publishes quarterly—*Plant Breeding Abstracts*.

Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL FORESTRY BUREAU

39 MUSEUM ROAD, OXFORD

Covers literature on all branches of forestry.

Publishes quarterly—*Forestry Abstracts*. Annual Subscription 25/-,* single numbers 7/6.

IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS

ABERYSTWYTH

Covers literature on grassland and forage crops, the botanical aspects of soil conservation and certain plant biological research.

Publishes quarterly—*Herbage Abstracts* and *Herbage Reviews*.

Annual Subscription—Herbage Abstracts 25/-,* single numbers 7/-.

Herbage Reviews 15/-, single numbers 4/-.

N.B.—Herbage Reviews is to be discontinued at the end of 1940 until further notice.

IMPERIAL BUREAU OF SOIL SCIENCE

ROTHAMSTED EXPERIMENT STATION, HARPENDEN

Covers literature on soils, fertilizers and general agronomy.

Issues 6 times a year an abstract journal—*Soils and Fertilizers*.

Annual Subscription 25/-* a year.

* Concession price of 20/- to subscribers in the British Commonwealth sending their subscriptions direct to Bureau.

Each Bureau also issues occasional papers and bibliographies. Details of these can be obtained from its Deputy Director. Subscriptions for abstracts should be sent to I.A.B., Central Sales Branch, Agricultural Research Building, Penglais, Aberystwyth, Wales.